

Chevy V8 Engine Swap

CAR CRAFT

MARCH 1956
25c



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1956

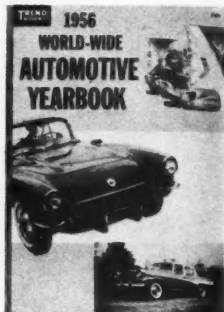
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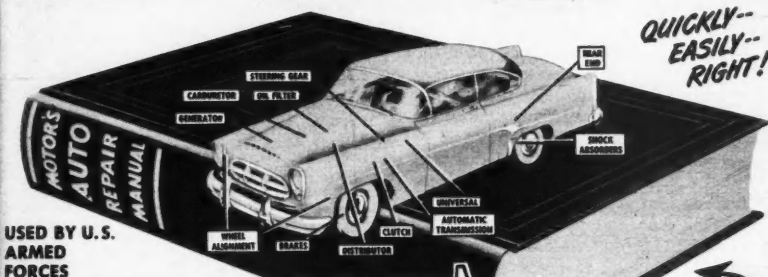
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with Racer

DRAG RACING TIPS FOR — STOCKERS

IF THE RECENT National Championship Drag Races at Great Bend, Kansas didn't prove anything else, they proved that the NHRA inspection crews were sharp enough to spot the cheaters and disqualify them from further competition. I refer to the stock car classes. Out of four classes, two would-be winners were disqualified and another was found to be "legal" by the rarest of accidents, which made him as guilty as the others by intent. Only one car of the four was completely "legal". Second place cars that would normally be declared winners under such circumstances, were also found to be illegal, so in two classes there were no winners. This is a pretty sorry record that borders on disgrace. Sportsmanship or ethics or whatever term it takes to describe the same thing, is the first and most important fundamental in any form of business or sport. If this attitude is not shared by all, the business or sport will cease to exist.

The stock car classes at any drag meet make up the majority of entries and we know that out of several cars of the same make with identical equipment, one car will consistently go faster than the rest. So what happens? Instead of trying, at least, to make an intelligent analysis of the winning car to determine what makes it go faster, the owner of a slower car will mill the heads of his car in order to beat the one that is completely legal. Needless to say, a chain reaction is in the making; a reaction that completely defeats the purpose of having stock car classes. This sermon merely points out that in most cases, those who wilfully cheat are merely trying to cover up their own mechanical ignorance and incompetence.

There are many ways by which a strictly stock automobile can be made to run better and faster than its production line brothers. Stock car class rules allow a choice of rear end gear ratios, provided these are listed by the manufacturer as an option with a particular type of transmission. Generally, the lower

(continued on page 63)

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cover

The wild Tangerine colored Ford on our cover this month gives a few hints to what is possible when restyling a '41 to '48 Ford. For further study, you can get checked out on page 16.

Anschochrome by Bob D'Olivo

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Words From The Editor

IN OUR LETTERS COLUMN this month appears a letter we recently received from a young and avid automotive enthusiast expounding on a characterization that he witnessed in another part of the country while vacationing this year. We are not in complete conformity with Mr. Binzer's report because he pinpoints a certain area that we know for a fact contains some of the most devoted hot rod and custom car aspirants in the country. The particular item that we wish to lift from his text is the prevailing situation of the "Yo-Yo" or *so-called* "Squirrel", that can be found as a minority from within our own ranks. One wrong move from this type of character can transpose our automotive sport into a backfiring bedlam of devastating newspaper publicity and the lowest of public acceptance. In short — it will send months of hard work spent at soliciting civic approval and cooperation gurgling down the drain. For us to just sit back and personally throw slanderous remarks at this type of person, or persons, is as much a criminal act as the one that the *so-called* "squirrel" committed.

To seek out a solution that will alleviate this problem we feel that first we should consider the person, or persons, involved. The average guy that fits the "squirrel" or "yo-yo" category is a person that is completely unaware of his devoted fellow enthusiasts and

their self-established standards. He is a guy that, in most cases, can be considered completely uneducated and unfamiliar with their virtuous endeavors. At one time or another he has made a fast self-observation of what he thought our sport consisted and, with his own set of warped rules, played the game the way he himself saw it — again uneducated!

Now that we have somewhat "pinned a tail" on the personality of the *so-called* "squirrel", have we really found an equalizer that will suppress any future action on his behalf? — you bet we have! Next time you encounter one of these local fuzzy contingents, walk up, and in a friendly manner, explain to him about your local hot rod or custom car club; invite him out to your next club meeting. We'll lay ten-to-one that the guy will show because of one simple, but very important reason. The "seed" of automotive enthusiasm is definitely there or he wouldn't have been tagged a "*so-called* "squirrel" in the first place. The only difference between yourself and this lad is that his *automotive enthusiasm* needs some directed cultivation up through the right channels. The guidance is strictly up to you and your fellow club members. After all, who knows — the town's local "squirrel" today, with the right guidance, might well be the club's prexy of next year.

— dick day

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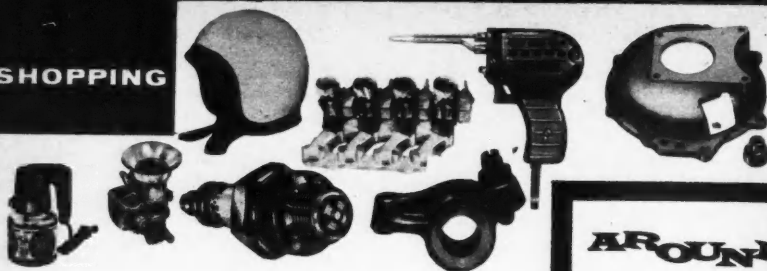
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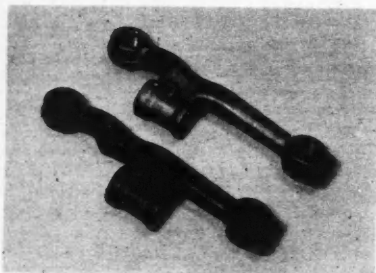
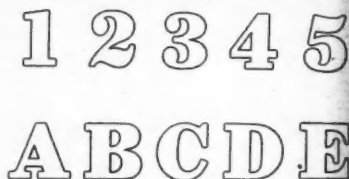
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AROUND

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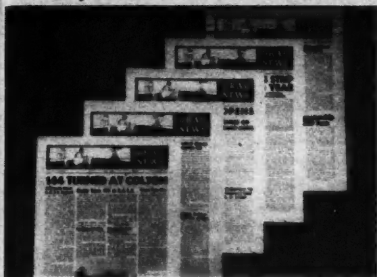
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letters

PRIDE AND JOY

Dear Sirs:

I've been an ardent fan of your magazine since the first publication and I think it's great.

Enclosed you will find a picture of my pride and joy. It has a very tired '36 V8 in the engine room and '39 hydraulic brake. Better things are in store for it in the future. I'm planning on leaving the body stock and just restore it. Since it isn't a finished product I suppose it doesn't merit a spot in your



magazine but I sure would like to see it in there. Keep up the good work.

Sincerely,
Jack Graham
Wichita, Kansas

What 'da you mean doesn't rate? It's an old "Uncle Daniel," if we've ever seen one—Ed.

"WHAT'S THE SOLUTION?"

Dear Sirs:

Where I come from, the town is popping with good rods and customs. Besides these, there are more on the way.

This summer I've come to the midwest for a vacation and some of the local so-called hot rods and customs are a real farce. Some enthusiasts' conception of a real bomb is a car with a 'Y' system, big white mud flaps and decorated with all sorts of flashy (?) lights. A few of these local squirrel wagons have been lowered by the unique method of throwing several hundred pounds of sand into the trunk.

While picking my way through some of the Yo-Yos I spied a rather bedraggled '39 Ford that was anything but a credit to dear Henry. The wheels were each painted a different color, for originality no doubt and the doors were painted blue to contrast with the body's gaudy yellow. Since the hood and fenders had been removed or knocked off, the engine was in plain sight of anyone that dared look at the greasy, rusted mess. As I suspected, the downtrodden power plant was stock. Protruding from the deck lid were two pieces of large diameter pipe. These were welded into holes evidently made with a can opener. To top off this monster was a large chrome bird of some sort (most likely a Cuckoo) and a large wooden plaque with the forged inscription "Hot Rods".

Just about this time, Joe Yo-Yo and one of his friends jumped into this roving death trap. With oil smoke pouring from one of the pipes and the sickening roar of a gutted muffler, the car (and I'm giving it the benefit of the doubt) rocked crazily down the street. Startled onlookers turned to observe the mobile wreck and mumbled something under their breath about, "Those damn hot rodders."

This explains why true hot rodders are having a rough time in some parts of the 48. But thanks to magazines like yours, these said enthusiasts are slowly waking up to the facts of life. When the revolution comes about the public will see beautiful customs replacing mobilized chrome displays and hot rods of engineering genius instead of petrified wrecks driven by a guy that should be arrested for impersonating a human.

Respectfully,
Rollin Binzer
Palm Springs, Calif.

We have to go along with your thoughts, Rollin, but don't forget, these so-called Yo-Yos can be found just as prominent out here on the west coast as back there where you are. In most cases they are confined to a minority, but like all good things, it only takes one to shed a dim light on a whole group no matter what their cause or sport happens to be. We feel the best solution for this type of guy, Rollin, is not to ridicule him, but to route him into a good active car club where he can come face to face with the advantages of today's young automotive sport—Ed.

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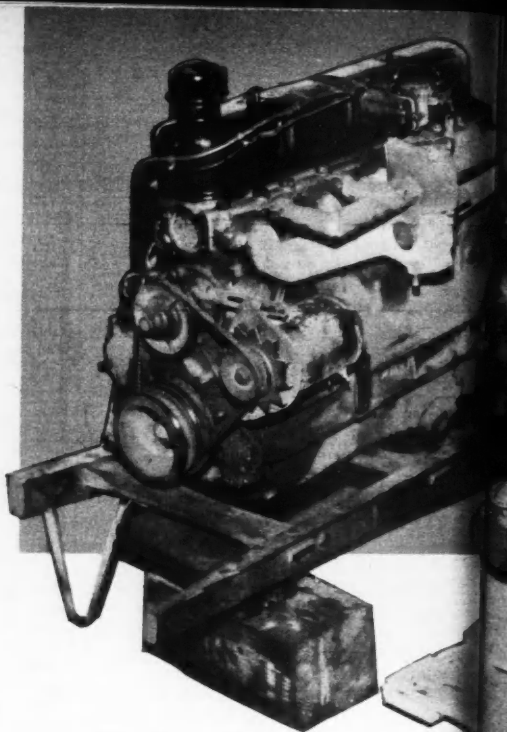
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ENGINE SWAP:

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*Chevrolet V8 engine
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in a '52 Ford pickup*

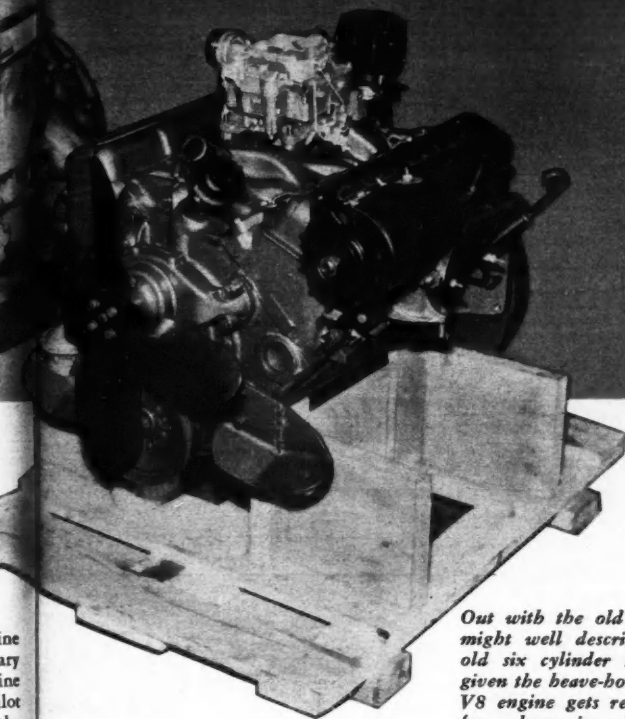


OUR PHOTOGRAPHER, Eric Rickman, has seen many more engine-chassis combinations than the average guy and has certainly shot more pictures of them than the average photographer. This experience helps add a little authority to Rick's statement that the V8 engine installation to be seen on these pages is the simplest conversion he has run across to date.

Nicson engineering of Los Angeles made the engine swap in their 1952 Ford pickup with an engineering purpose in mind instead of the desire for more horsepower which normally precipitates such a change. Nicson designs and manufactures Chevrolet speed equipment and they needed a means of testing Chevy V8 speed parts they were developing. By converting the company pickup to a rolling laboratory, it was decided that they could test the equipment under road conditions and everyday use plus any tests which they might care to make on their chassis dynamometer.

A Cyclone adaptor from the Cook Machine Company of Los Angeles made the necessary connection between the '55 Chevy V8 engine and the Ford transmission. A Cyclone pilot bearing adaptor was used in the end of the Chevy crankshaft to hold a Ford pilot bearing. The clutch used was Ford 10 inch with the flywheel re-drilled to the Ford pressure plate bolt pattern. A Borg and Beck pressure plate can be used with no changes necessary since the bolt pattern is the same as the Chevy flywheel.

With the clutch assembly and adapter bolted in place the engine was lowered into the chassis formerly occupied by the Ford six and bolted to the transmission. No interference was present around the rear part of the engine except for one shifting rod which needed a slight bend to clear the Cyclone housing, so the next step was the front motor mounts. Before fabricating these mounts, the engine position in the chassis



Out with the old and in with the new might well describe this picture as the old six cylinder Ford engine has been given the heave-ho and the new Chevrolet V8 engine gets ready to leave the crate for a home in a '52 Ford pickup truck.

was determined. There are several factors which enter into play at this point among which are; the angle of the carburetor flange on the intake manifold, steering linkage or chassis clearance beneath the engine and the position of the stock engine.

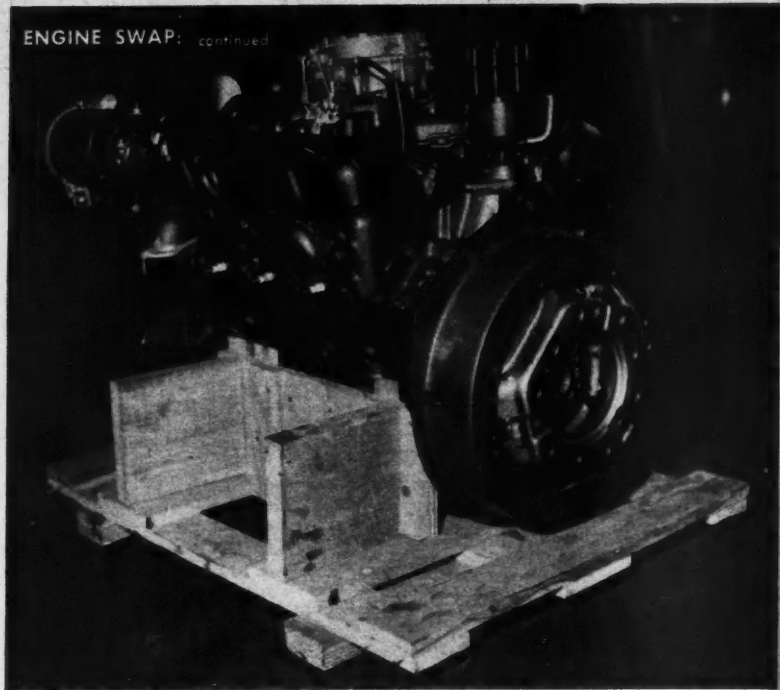
A popular method among the engine-switch boys is to keep the crankshaft center line on the new engine as close as possible to the center line of the original engine. All modern automobile engines sit slightly higher in front than in the rear and the angle varies from about 2° to 5° depending upon the engine. The carburetor flange on the manifold is machined to compensate for this tilt so that the carburetor remains level in normal

driving. A level placed across the flange determines when the engine angle reaches the stock position. The level may also be used to make sure that the engine does not tilt to either side.

After Nicson positioned the Chevy engine, cardboard templates were made to fit between the engine and the frame and these patterns then transferred to $\frac{1}{4}$ x 3 inch angle iron. The Ford chassis could originally be purchased with either the six or eight cylinder engine and frame members were stamped to take the motor mounts from either engine. The fabrication of brackets to fit between the Chevy engine and the frame members was a simple procedure.

CONTINUED

ENGINE SWAP: continued



First step of installation was to redrill Chevy flywheel for Ford pressure plate and 10 inch clutch. Cyclone bell housing adaptor is used between engine and Ford trans.

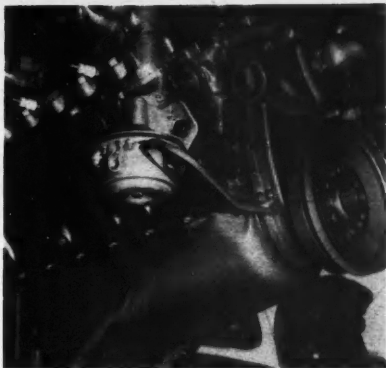
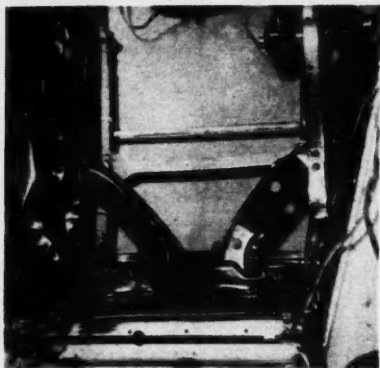


With the transmission fastened to the engine and the engine fastened to the frame, the part of an engine swap which usually causes the most grief was completed. Since the pickup was originally fitted with a six cylinder engine using only two hose connections on the radiator, it was not necessary to change the location of the radiator outlets. The fact that the Ford six and the Chevy V8 use the same size water hoses makes this phase of the engine swap a perfect fit.

The remainder of the work involved converting the entire electrical system to 12 volts. This meant a 12 volt battery and voltage regulator. All lights on the truck from the sealed beam headlights to the dash lights also had to be replaced with 12 volt

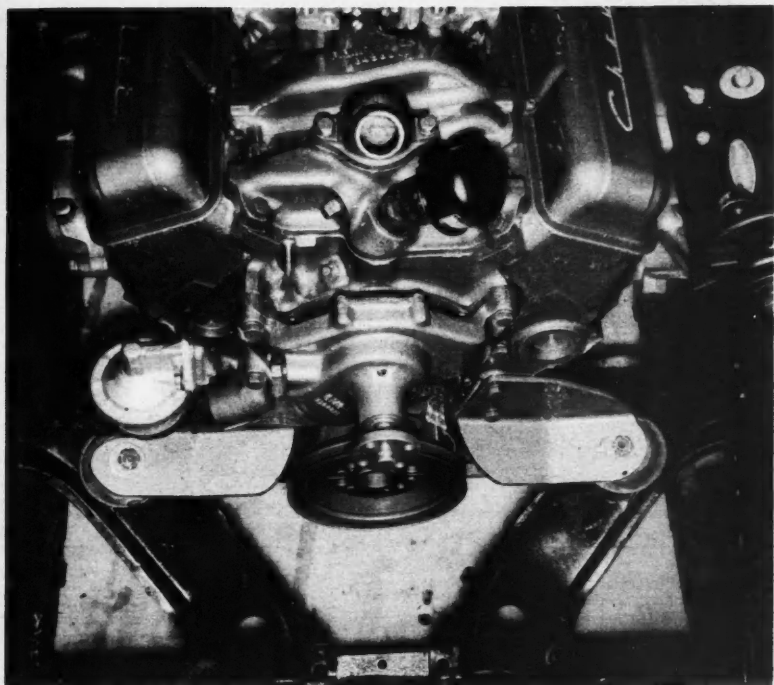
Randy Smith lowers away on the chain hoist as new engine is given the first fitting.

CAR CRAFT



Spacious engine compartment in Ford has holes stamped for two types of mounts.

New mounts fabricated are tilted to fit frame. Note the fuel pump nearness.



Bolted in place, Chevrolet V8 uses the same set of holes designed for Ford V8. Bottom of fuel pump was rotated so gas line fittings on pump would clear new engine bracket.



Ford steering box has plenty of room and unaltered shift linkage just misses engine.



Top shifting rod was reshaped slightly to miss larger housing. Action is unchanged.

ENGINE SWAP: *continued*

bulbs. Stewart-Warner resistors were used between the 12 volt system and the electrical dash instruments so that they would indicate correctly. The instruments will burn out if resistors are not used. The Ford temperature and oil pressure sending units were used on the Chevy engine since they were designed to operate with the instruments in the truck.

New exhaust head pipes were made up to fit between the Chevrolet exhaust manifolds and the existing dual pipe system on the truck. Lakes plugs were placed in each head pipe ahead of the muffler so that back pressure could be eliminated for dyno tests.

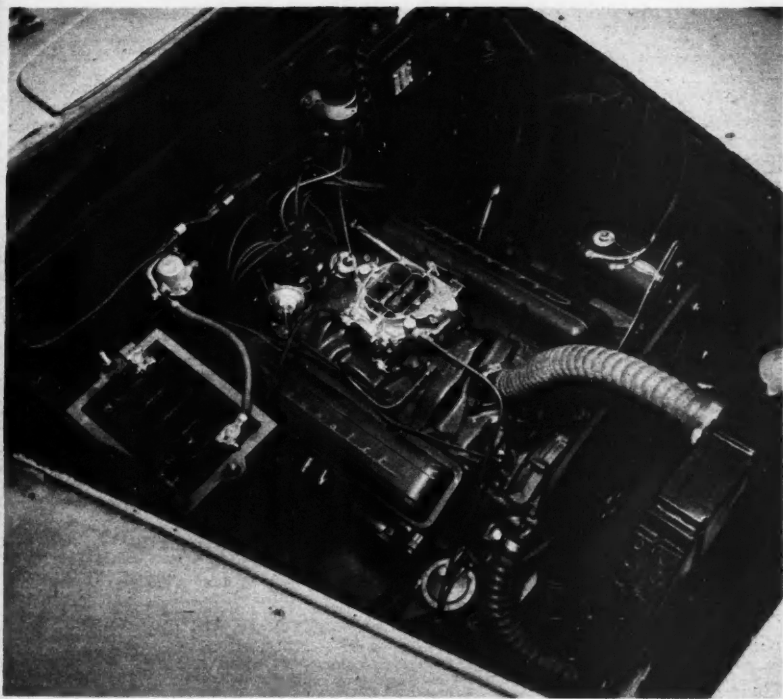
So, that is how a Chevrolet V8 engine fits into a Ford pickup chassis. Like Rick said, it is one of the easiest engine swaps he has ever seen anyone tackle. If you are looking for more horsepower, don't sell that little Chevy short, Nicson's pickup feels real healthy with a stock engine and power pack four-barrel carburetor. With some of the speed equipment being developed, this light weight V8 could be in the same league with the big inch jobs.



Ford six radiator was used without any alterations. Both hose sizes were identical.



Worm's eye view of finished conversion reveals an uncluttered and unchanged chassis with direct exhaust head pipes leaving Chevy manifolds. Lakes plugs are for dyno runs.



Completed installation shows the large open space all around the Chevrolet engine. Ford electrical system was converted to 12 volts to match Chevrolet starter, generator.

"I Bought A Custom"



the "for sale" sign hanging in the window of this little red jewel proved too much for Ken Caputi, a Burbank, California, lad who thrives on sharp looking cars

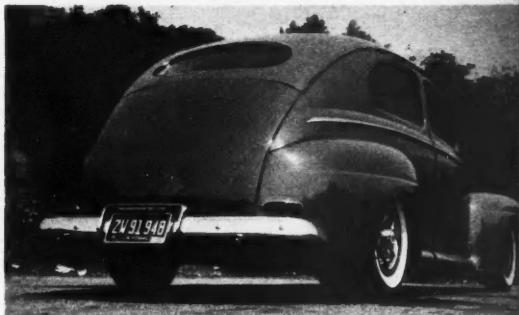


COVER CAR

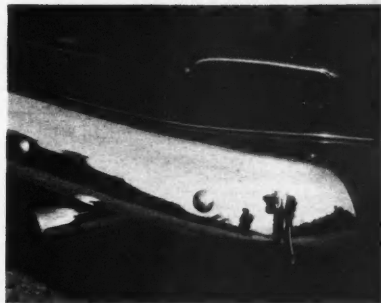
Photos by Bob D'Olivo

Ken Caputi, a lad who maintains that he always has an eye out for sharp looking equipment, bought this flashy '47 Ford sedan for a going market price with all body work completed.

Low rear shot of car accentuates body's smooth bulbous contours. Eight-inch shackles are employed at the rear for maximum drop, while up front, a popular 2-inch dropped "dago" axle coupled with 6-inch shackles do the job. Radically lowering a car in this manner offers pleasing appearance, but handling qualities are severely impaired. Rear deck trim and door handles have been given "deep six" action and both are now operated by push buttons.



Ford's stock taillights have been discarded and replaced with '39 Packard assemblies that are merely grafted to fenders in a very low position. Bold grille styling was achieved by installing '47 Olds grille bars. Headlights are frenched to fenders and all fender side trim removed. Body work was done by Studio Auto Body, Glendale, California. Car is finished off in a vibrant Tangerine orange color.

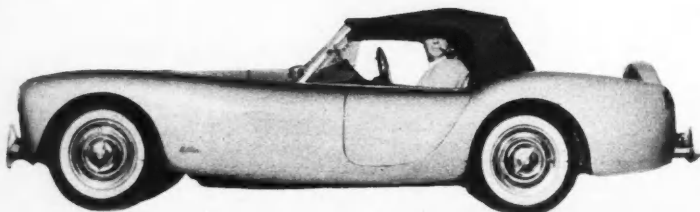


COMMERCIAL FIBERGLASS BODIES

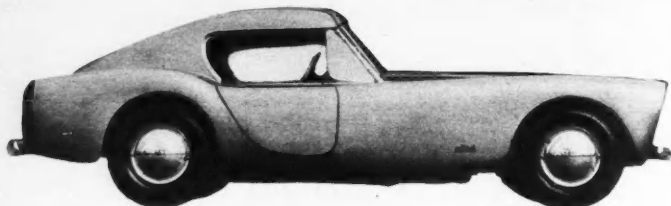
By Jim Potter

Photos by Potter, D'Olivo, Rick

looking for a fiberglass body? Here are twelve commercially manufactured models ranging from \$400 to \$700 in price that will fit everything from an MG to a large stock car chassis



WOODILL WILDFIRE



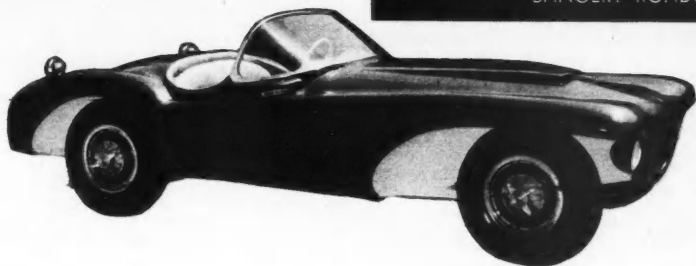
Specifications: (Roadsters and Coupes)

Wheelbase	101½ inches
Tread, front	56 to 57 inches
Tread, rear	55 to 56 inches
Overall length	160 inches
Overall width	68 inches
Overall height, at cowl	39 inches
Roadster Body Kit	\$ 935.00

Coupe Body Kit

Complete with top and rear window	\$1135.00
Complete frames and other accessories are available also. For additional information, write:	
Woodill Fiber Glass Body Corp.	
8640 E. Firestone Blvd.	
Downey, California	
Logan 8-7246	

BANGERT ROADSTER



Specifications:

Wheelbase	96 to 104 inches
Tread	56 to 58 inches
Overall length	161 inches
Overall width	70 inches
Overall height at cowl	36½ inches

One piece body shell

\$ 495.00

Two different frames and other accessories are available also, for additional information, write:

Bangert Enterprises

3515 Cahuenga Blvd.

Hollywood 28, Calif. Hollywood 4-9482



METEOR SR-1



Specifications:

Wheelbase	100 inches
Tread, front	56 inches
Tread, rear	58 inches
Overall height	36 inches
Body complete weight	170 lbs.
Body shell only	\$ 475.00

Body semi-complete

\$ 550.00

Body complete

775.00

Complete cars and frames are also available, for prices and additional information, write:

Meteor Sport Cars

7995 Robin Lane

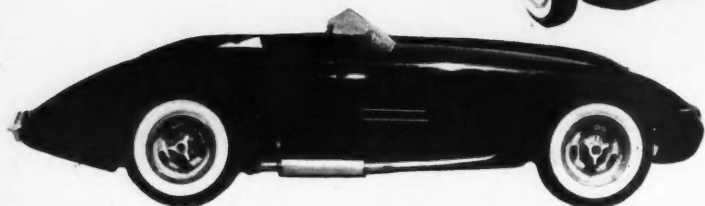
Denver 11, Colorado

CONTINUED
19

MARCH 1956

FIBERGLASS continued

SORRELL SR-100



Specifications:

Wheelbase	95 to 100 inches
Tread, front	56 inches
Tread, rear	58 inches
Overall length	173 inches
Overall width	69 inches
Overall height at cowl	36 inches

One piece body shell only

\$ 500.00

Other stages of body completion and accessories are available at extra cost. For additional prices and information, write:

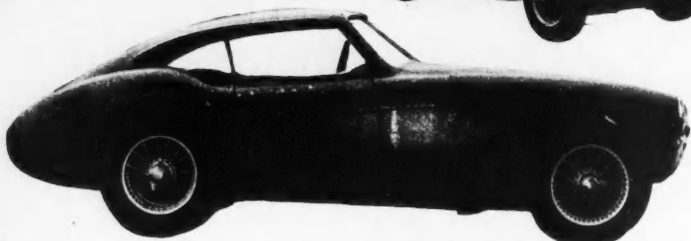
Sorrell Engineering

9616 Felton Street

Inglewood, Calif.

Orchard 7-1402

SORRELL SR-190 COUPE



Specifications:

Wheelbase	90 inches
Tread	48 inches
Overall length	151 inches
Overall width	60½ inches
Overall height, top	47 inches

Note: This body is also available with a 100 inch wheelbase and 58 inch tread.

Coupe body shell only

\$ 575.00

Complete top kit to fit stock Austin-

Healey body including windows

\$ 295.00

The SR-190 coupe body will fit any stock Austin-Healey chassis without alterations. Other stages of body completion and accessories are available at extra cost. For additional prices and information, write:

Sorrell Engineering

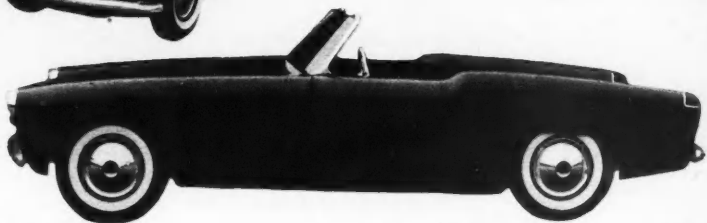
9616 Felton Street

Inglewood, Calif.

Orchard 7-1402



VICTRESS S-4



Specifications:

Wheelbase	112 to 116 inches
Tread	58 inches
Overall length	187 inches
Overall width	70 inches
Overall height at cowl	40½ inches
Overall height with top	55½ inches
Body kit semi-complete	\$ 695.00

Body kit including hardware

\$ 795.00

This body is designed to fit any stock Ford chassis from 1939 to 1955 and will also fit other make cars of comparable wheelbase, for additional information and prices, write:

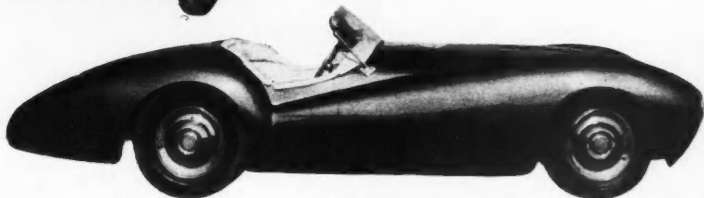
Victress Manufacturing Co.

11823 Sherman Way

North Hollywood, Calif. Poplar 5-5339



VICTRESS S-1A



Specifications:

Wheelbase	99 inches
Tread	58 inches
Overall length	168 inches
Overall width	67 inches
Overall height at cowl	38 inches
Overall height with top	54 inches
Body kit semi-complete	\$ 595.00

Body kit including hardware

695.00

The above body is also available to fit a 94 inch wheelbase and 48 inch tread. This model is called the Victress S-5. For additional prices and information, write:

Victress Manufacturing Co.

11823 Sherman Way

North Hollywood, Calif. Poplar 5-5339

FIBERGLASS continued

VICTRESS C-2 COUPE



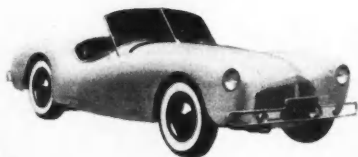
Specifications:

Wheelbase	94 inches
Tread	50 inches
Overall length	158 inches
Overall height at cowl	55½ inches
Overall width	70 inches
Body kit semi-complete	\$ 595.00

The above body is also available to fit the same chassis' as the Victress S-1A roadster. This coupe is called the Victress C-6. For additional information and prices, write:

Victress Manufacturing Co.
11823 Sherman Way
North Hollywood, Calif. Poplar 5-5339

GLASSPAR G-2

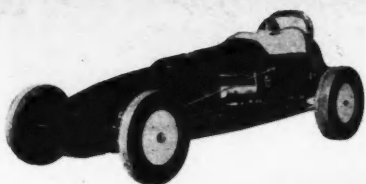


Specifications:

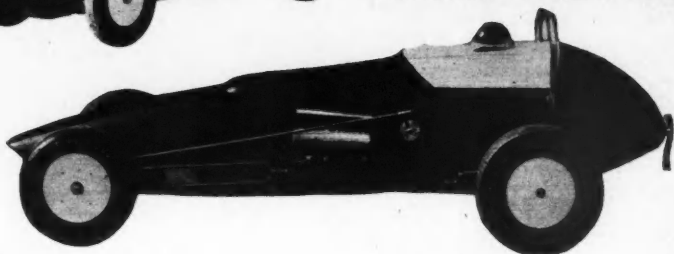
Wheelbase	101 inches
Tread	56 inches
Overall length	160 inches
Overall width	66 inches
Overall height at cowl	36 inches
One piece body shell semi-complete	\$ 695.00

Additional accessories, frames and modified running gear are also available. For prices and information, write:

Glasspar Company
19101 Newport Ave.
Santa Ana, Calif.
Kimberly 5-1171



VICTRESS DRAGSTER



Specifications:

Wheelbase	100 to 118 inches
Overall length	174 inches
Overall width	28 inches
Overall height	39 inches

Dragster body shell

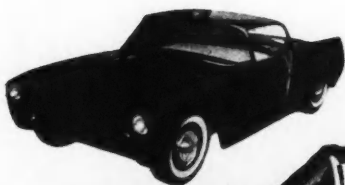
\$ 250.00

For additional information and facts, write:

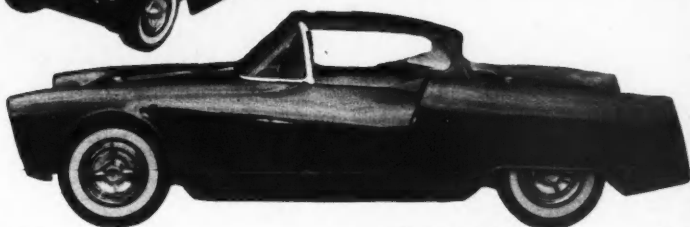
Victress Manufacturing Co.

11823 Sherman Way

North Hollywood, Calif. Poplar 5-5339



McCORMACK COUPE



Specifications:

Wheelbase	106 inches
Tread, front	58 inches
Tread, rear	60 inches
Overall length	142 inches
Overall width	72 inches
Overall height with top	49 inches

Body kit semi-complete

\$ 695.00

Frame and additional accessories are also available. For more information, write:

Henry McCormack

182 S. Pepper St.

Orange, Calif.

Keystone 8-3073

P O P P O U R R i



Transposition of Ford came about by utilizing many pieces from other makes. Grille assembly emanates from '53 Chevy. Headlights have been frenched and tops capped to simulate late Lincoln styling. Hood has traditional shaved, peaked and rounded corner treatment. Note additional bumper guards adapted to the Front bumper.



Norton Beilson, a young St. Louis, Missouri, college student and a long time automotive enthusiast, bought the car in its customized condition from bodyman friend Herman Boblman who is employed by J & K Body Shop in St. Louis. Note the fully contoured rear fender skirts that were hand-formed from sheet metal by builder Boblman. Doors and deck lid are actuated by "solenoid operated" push buttons. Special side strip dividing red and black paint job is contoured similar to '55 Ford side trim.

C U S T O M



Beilson, in foreground, demonstrates how special chopped top is removed from car. Top's center frame bows were chopped 3-inches to lend car a lower silhouette. Ford's suspension systems are unaltered.

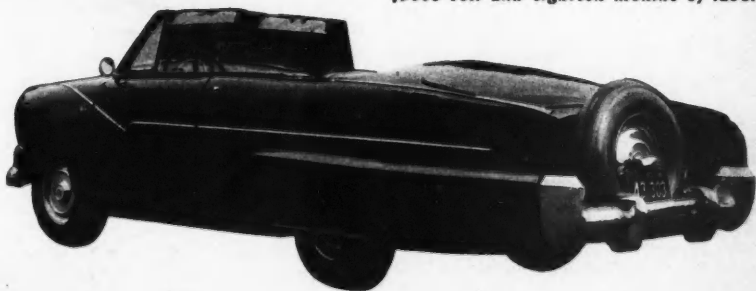


Fenders were radically extended to match off with continental kit. '53 Lincoln tail-light lenses were installed and also a complete Lincoln bumper was adapted to the rear, accentuating the length even more.

it's not often you can con your favorite bodyman right out of his personal custom car, but with Norton Beilson — this was the case



Beilson's swank appearing '50 Ford serves as a fine example to those unfamiliar with present day customizing. Car's sleek look was achieved by carefully blending harmonious components from other products. Completed car represents an investment of \$3000 cost and eighteen months of labor.



metal spinners made
from spotlight and foglight
shells prove to be
the new look for
customized hubcaps



1. With small nut brazed to inside, measure off the inside depth of the spinner.

the HUBCAP CRAZE SPINNERS

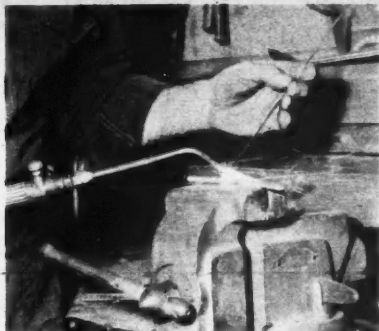


A SIMPLE ACCESSORY item that's playing a large popularity role with today's custom car devotee is the new — *spinner hubcap craze!* Basically, it's another inexpensive means to make your car just a little bit different in appearance than the next guy's. The "spinners", specially spun bullet shape metal pieces, are available in either a gold or chrome finish through the Barris Brothers Custom Shop located at 11054 South Atlantic Boulevard, Lynwood, California, priced at \$4.95

each. If you choose to make your own, then this can easily be accomplished by making them from any bullet shaped metal objects such as, spotlight or foglight housings. Requirements consist of simply brazing a small nut to the inside of the spinner housing and then having it refinished at the local chrome plating shop. How to correctly button up the "spinner" to any make hubcap is thoroughly covered in the following step-by-step photographs.



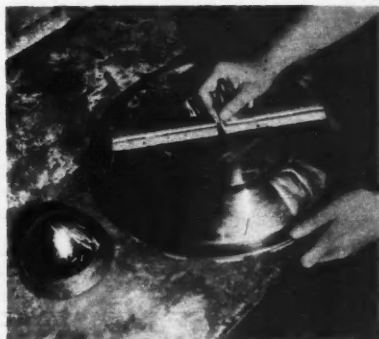
2. After measuring, select two stovebolts that extend just past depth of spinner.



3. Place the two stovebolts head-to-head and securely braze them together as one.



4. Now, thread the special-made stovebolt into the nut secured inside of spinner.



5. Next, determine the center of the hubcap by measuring across its diameter.



6. Center punch hubcap very lightly, then drill out a correct size bolt hole.



7. Bolt spinner to hubcap. If stovebolt is too long, saw it off flush with nut.

TORCH TIPS:

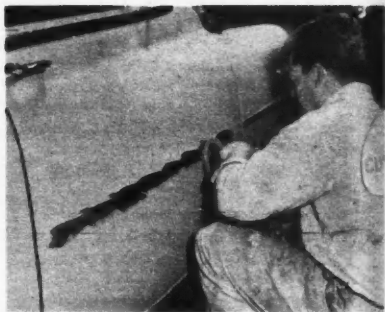
adapting late Buick



"STYLERS CUSTOM BODY SHOP" —

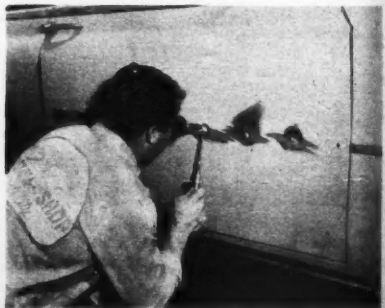
teeming fender-bending emporium of National City, California, occupies our Torch Tip spot this month, clearly illustrating the required constructional steps for restyling your car's side trim. The late Buick's coveted trailing spear was selected for the installation due to the many inquiries we have received pertaining to this one component. The concinnity of the spear allows it to be adapted to almost any make of car with little or no modification. This, its largest asset, along with being a splendid piece of side trim for dividing two-tone paint, accounts for its popularity. The following step-by-step story of trim restyling is projected as a basis for all side trim modifications.

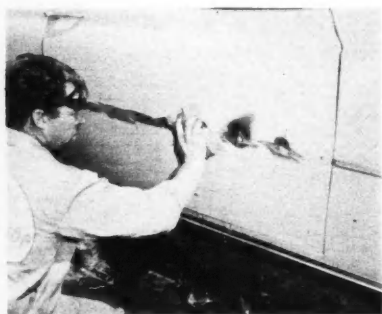
2. Grind paint from area with an electric grinder, countersink holes to be filled.



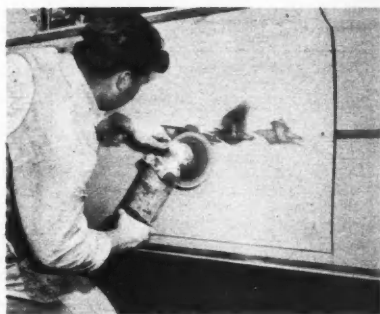
1. Initial step in restyling side trim is to first fill all the un-needed trim holes.

3. Each old trim hole is now brazed over, one by one, using torch and brazing rod.



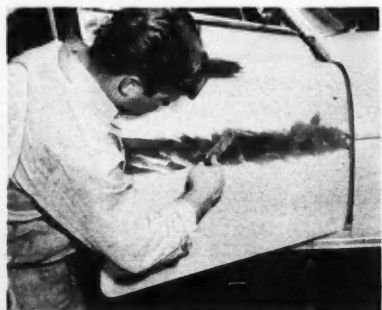


4. After brazing a hole closed, apply a wet sponge which will minimize warpage.

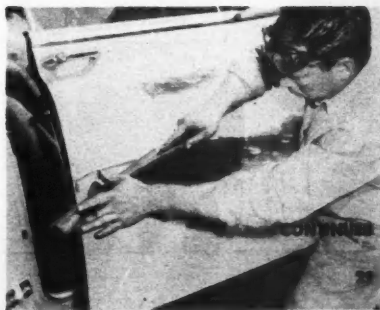


5. With all holes filled, now employ grinder again, grinding the surface smooth.

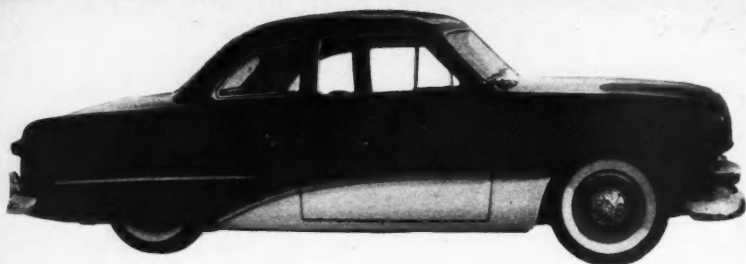
6. Low spots and warped areas are now worked out with file spoon and dolly.



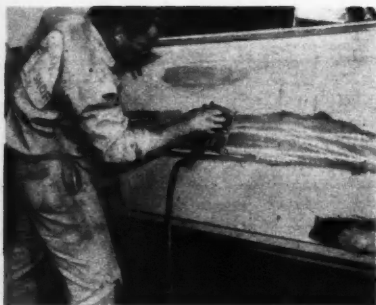
7. Surface of metal is now worked perfectly smooth by hand filing with a vixen file.



BUICK TRIM continued



Noel Thomas adapted the late Buick spear very low on the sides of his '49 Ford allowing it to divide two-tone paint. Spear diminishes into rear fender skirt air scoop.



8. The next step is to thoroughly sand working area with (80) sandpaper (dry).

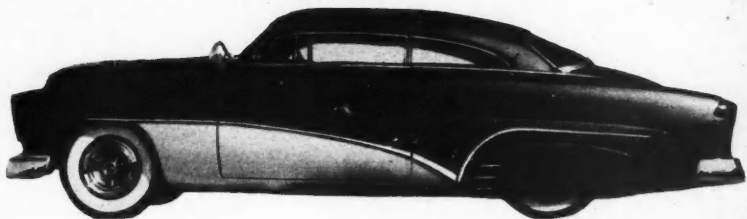


9. Clean bare metal with metal prep solution, then prime paint and blocksand.

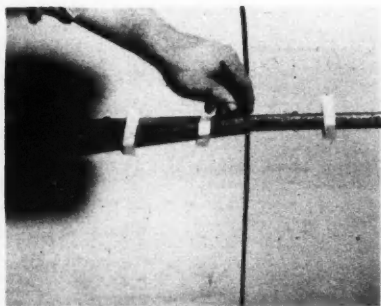
10. Now place Buick spear (all three sections) on side of car with masking tape.

11. MOST IMPORTANT TASK IS TO CORRECTLY ALIGN ALL SECTIONS.



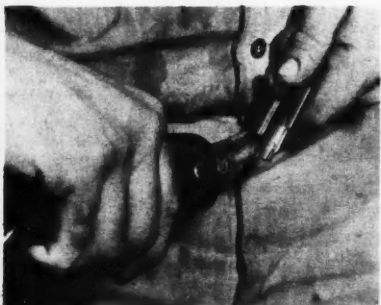


Dave Burgarin, to accentuate the length of his '51 Mercury, utilized the complete Buick spear assembly. Trim also harmonizes very well with the large rear fender skirt.



12. Mark door and front section where they will have to be cut at the door seam.

14. Underneath side of trim is cut back with tin snips allowing you to fold under.



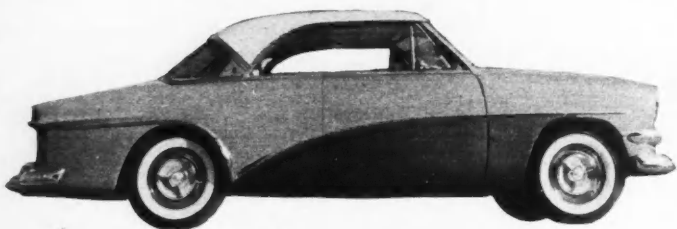
13. After cutting pieces to length, ends fitting next to door seam are split with saw.

15. Here is close up showing how ends fitting next to door seam are folded in.

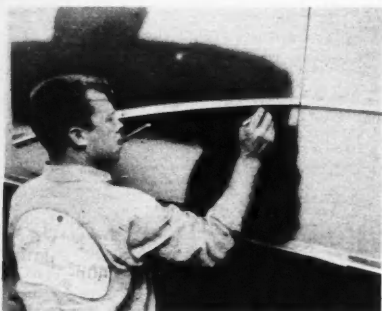


CONTINUED

BUICK TRIM continued



Robert Bean employed the complete Buick spear separating his '51 Ford Vic's dual toned paint job. Like Buick, Bob matched the rear wheel openings to spear's radius.

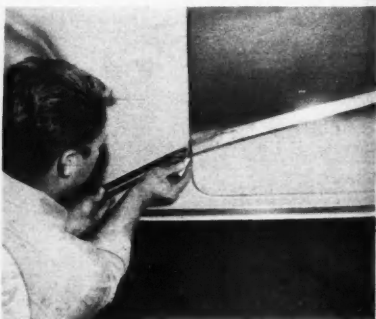
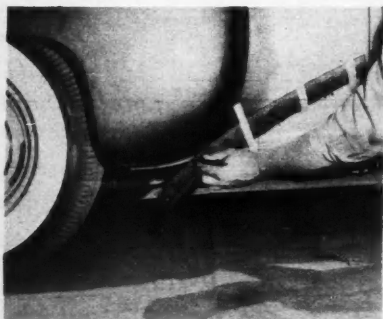


16. Align trim again perfectly, tracing lines onto body from both sides of trim.



17. Trim's T-bolt holes should be spaced out about every seven or eight inches.

18. Lower rear section of trim is marked off to align with lower rocker molding.



19. Also check out alignment of lower section with the angle of the door seam.



Jim Kida installed just the forward portion of the spear to the sides of his immaculate '52 Ford custom. Spear trails off into neatly constructed rear fender scoop.



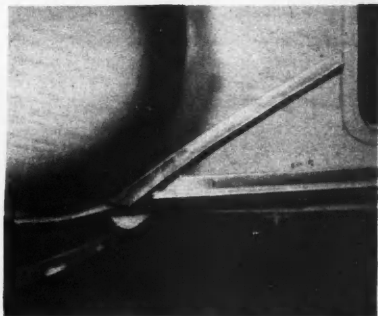
20. If section needs end re-aligned with door seam, cut it off at correct angle.

22. Cut section from lower rocker panel allowing trim to lay flush against body.



21. Here is close up of the end, showing how it is split and bent over neatly.

23. Here is how the rocker panel molding and trim are mated at lower edge of body.





Chuck Porter



Harold Rimer



H. J. Monroe

CHUCK PORTER, tabbed "Mr. Pickup" himself, commenced his career as a body-man in Kansas City, Missouri, prior to World War II. After spending his tyro years at such jobs as fender bender for a trucking firm, automotive agency work and the likes, he migrated to Southern California where he resumed his occupation in a body shop that specialized in midget race car repair. It wasn't long 'til Chuck had become so enthused with the midget sport that he found himself behind the wheel tooling the little jobs as well as straightening them out when catastrophe struck. World War II sent chuck on to another profession, that of a waist gunner with the U. S. Air Force. Upon discharge from the service, Chuck immediately took up where he left off, working for Art and Jerry's Custom Body Shop in Hollywood. Here, he joined the fraternity of the hot rodder and custom car enthusiast, participating weekly at memorable dry lake speed trials and local custom car activities. In 1950 Art and Jerry looked for greener pastures and Chuck took over as sole owner of his own custom emporium. Out of all the cars that Porter had creatively assembled through the past years, probably his latest offering has proved the swankiest—a '49 Ford featured in the March '55 issue of our companion magazine Hot Rod. This one has had the full treatment; sectioned body, chopped top, special aluminum bed and tailgate, and under its hood nestles a big fat '53 Cad engine that is capable of rousting the small yellow pickup 113 mph through the quarter-mile traps any Sunday of the week. The truck to date has some sixty trophies to its credit both for competition events and auto shows.

Chuck invites all inquiries and visitors—and perchance you just happen to be in the market for a pickup truck, any year

CHUCK PORTER'S BODY SHOP

RESTYLES

A LATE CHEVY
PICKUP—



and model, it just so happens that he has a few left in stock. He states that "if we don't have what you want in stock, then we'll just have to build one up." At any rate, write: Chuck Porter's Body Shop, 4720 Sunset Blvd., Los Angeles 27, California.

LITTLE DID WE realize when he handed Chuck Porter the photograph of this stock '50 Chevrolet 1/2-ton pickup for customizing that we'd get back in return a new concept in pickup truck restyling. Chuck, without a doubt, went the route with his innovations which are obvious when comparing the stock photographs against the restyled illustrations.

The top was first to receive attention; here,

a two-inch section was removed from the center of the cab. To bring frontal vision up to modern standards and design, a full wrap-around windshield from a '55 Chevy pickup was installed. By measuring off the height of the front and rear fenders, Porter found that he could completely box in the sides of the body with sheet metal, offering somewhat of a radical styling similar to the popular full-fendered '55 Chevy "Cameo" pickup

Porter's restyling treatment of the late '47-'53 Chevy pickup offers a new concept in styling compared to the traditional customizing of the past. Compare his innovations to some of the new '56 truck designs and you'll find close harmony.



CONTINUED

RESTYLES continued

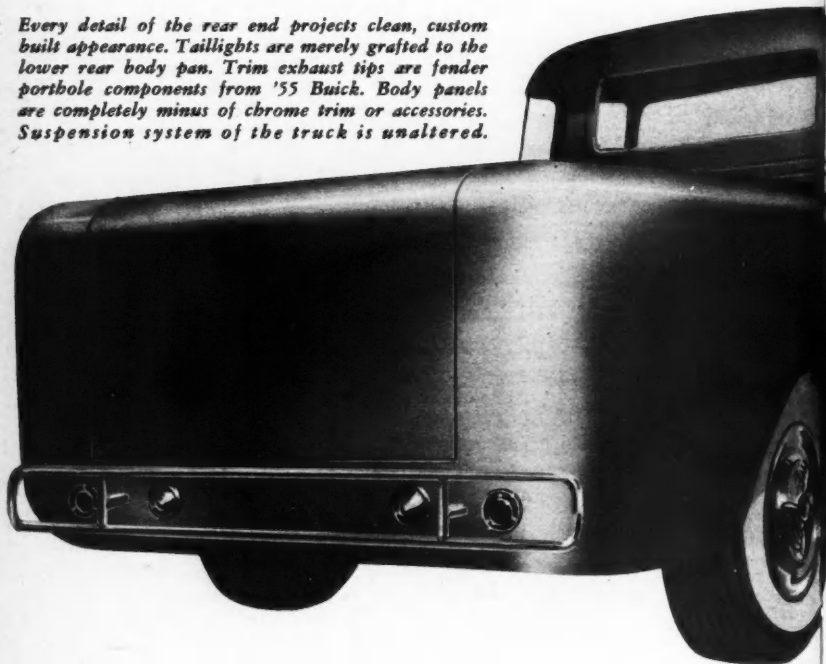
truck. Once Chuck had come up with the deep full fender effect, he also took advantage of the popular tuck and roll treatment for detailing off the lower edge of the body. Wheel openings were given the latest ala Chev or Olds styling, that of the sweeping or trailing rear fender edge.

With the sides of the body and pickup bed boxed in it was only natural that the frontal appearance carry the same motif. The massive stock grille bars were discarded and front body panels reworked to accommodate special recessed chromed inserts for the head-

lights and a checkered grille assembly similar to '55 Chevy construction. The stock hood, due to the design and contours of the new body panels, had to be removed. It is replaced with a new one power-hammered from sheet metal.

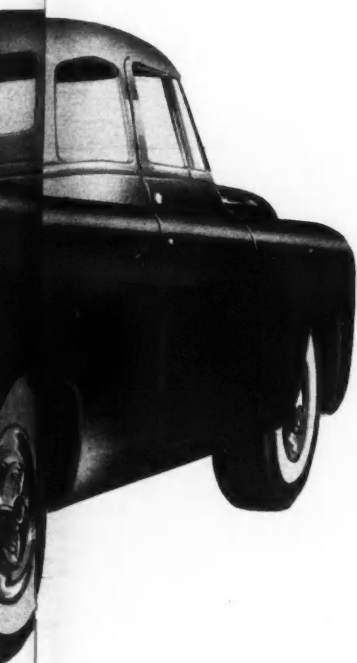
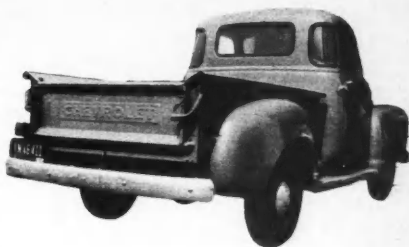
The rear portion of the pickup bed has been given the same simple styling as that of the cab and body. The bed's rear corners and top edges have been rolled, creating a symmetrical styling in conjunction with the body. Adapted to the lower rear pan of the bed are oval taillights emanating from a late Pontiac. The exhaust system also has been routed out through the lower pan and exhaust tips comprised of '55 Buick (portholes) fender trim

Every detail of the rear end projects clean, custom built appearance. Taillights are merely grafted to the lower rear body pan. Trim exhaust tips are fender porthole components from '55 Buick. Body panels are completely minus of chrome trim or accessories. Suspension system of the truck is unaltered.



(see CAR CRAFT, Feb. '55). Bumpers both front and rear consist of nerf bars made from chrome-moly tubing. The stock gas filler spout has been moved to the inside of the cab and the door handles have been replaced with manual push buttons from a '41 Lincoln.

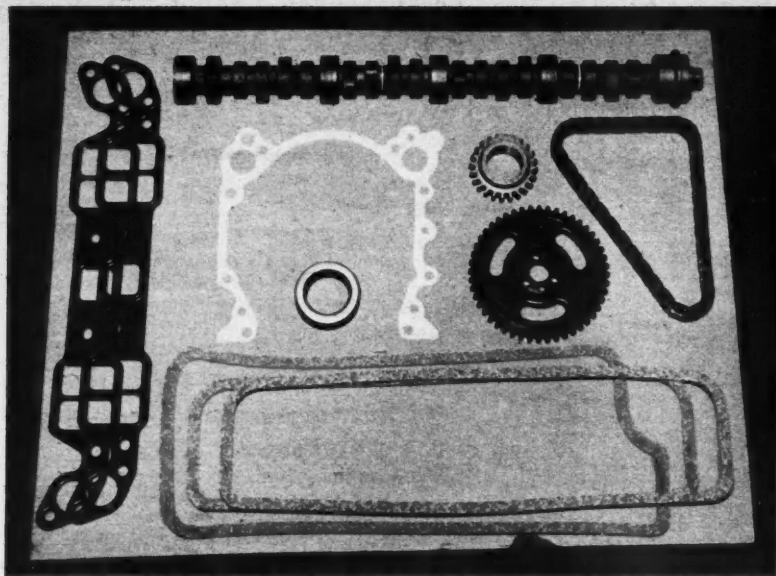
When Chuck was asked what prompted him to take the styling theme that he employed he was quick with the statement — "I'm from the old school of *dechrome it and let the clean lines of the body carry the essence of the original styling*. I also feel that the stock production truck of tomorrow, say 1960, will offer a very similar custom styling." — and you know, he might be right!



PARTS AND PRICE LIST

	Labor	Parts
Chop top 2-inches	\$250.00	\$
Install wrap around windshield ('55 Chevy)	250.00	106.00
Box in sides of body and cab with sheet metal	600.00	....
Construct new hood from sheet metal	225.00	....
Special chromed inserts for headlights	80.00	....
Panel in front of body	90.00	....
Construct special grille from flat stock and chrome	200.00	....
Re-route gas filler spout to inside cab	10.00	....
Install manual push button door latches ('41 Lincoln)	30.00	6.00
Build sheet metal tailgate and install	60.00	....
Build lower rear body pan from sheet metal	20.00	....
Route exhaust tips out through rear pan	20.00	....
Install late Pontiac taillights in rear pan	15.00	7.00
Reshape wheel openings	80.00	....
Build nerf bumpers for front and rear and install	160.00	....
Paint (lacquer)	150.00	....
	<u>\$2240.00</u>	<u>\$119.00</u>
	119.00	
Total	\$2359.00	

Illustrations by Don Fell



Complete layout of parts needed to make a cam installation on a typical overhead valve engine includes cam, new sprockets, chain, gaskets and oil seal for front timing cover.

CAMSHAFT

BY RAY BROCK

Photos by E. Rickman



Al Miller prepares to put a new cam in a late Olds. Loss of horsepower can often be traced to cam after many hard miles.

HOW WOULD YOU LIKE to replace the camshaft in your car's engine? If you happen to be in the mood for some changes on the stock engine in your car and are thinking in terms of more valve timing to give that added charge to the engine, this story should be for you. On the other hand, if your engine has quite a few miles on it and all of the tuneups in the world don't seem to help much, don't look now but some of the bumps on that stock camshaft may have disappeared.

It is surprising just how many home mechanics are reluctant to tackle this job because they are not quite sure what to do. On the following pages, we'll go through a typical cam installation via the picture route so that



1. First step of getting into front of engine is to take radiator out of the car.



2. After removing rocker covers, shafts are removed to relieve spring pressure.

INSTALLATION

putting a new stick in your engine isn't too much of a job—especially on late engines

you can get a pretty good idea of the amount of work involved.

The engine pictured in this story qualifies under both of the situations mentioned in the first paragraph. It's a '54 Olds engine with 40,000 miles during which time the camshaft lobes got a little flat, the timing chain lost a little tension, and both sprockets showed definite wear. The engine still ran good but just didn't seem to have the old punch. It was decided that a new camshaft was the order of the day but since the old cam was coming out, why not pick up some extra timing? On this particular engine, the extra timing could be gained by using a 1955 Olds cam which also allows the hydraulic lifters to still be used.

The actual steps involved in getting to the cam vary somewhat depending upon the make and type of engine being worked upon. The L-head engines are the hardest to work on since it is necessary for all of the valves to be removed before the cam followers may be taken out or at least lifted clear of the cam. On an L-head engine, valve removal means a head removal. With the overhead valve type engine, the rocker arm cover (or covers) can be removed, the rocker arm shaft(s) taken off and the push rods pulled out of the lifters. It is then a simple job to pull the lifters out of the block or if they are of the mushroom type, to hold them at the upper limit of their travel with rubber bands or clothes pins.

CONTINUED



3. Next step is to get the intake manifold out of the way and get to the tappets.



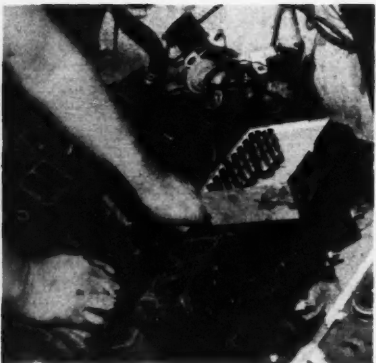
4. Push rods are removed next. It is recommended that you keep them in sequence.

CAMSHAFT continued

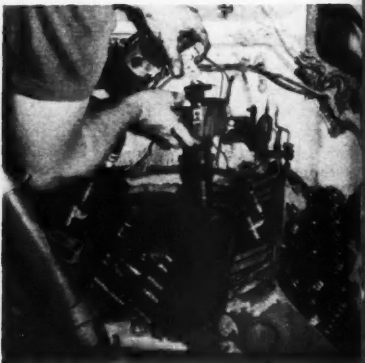
After the above has been done, the valve spring load is no longer on the cam and the next step is to get to the cam out through the front of the engine. First, drain the radiator and block, then pull the radiator out of the chassis. Some cars may have to have grille sections taken loose, too. Next, remove the front cover over the timing chain and sprock-

ets. On some cars, such as the Olds used in this story, the front of the engine is supported by a mount bolted to the front cover so a floor jack or hoist is needed to take the load off of this mount so that the cover may be removed.

With the cover out of the way and the timing gear or sprocket in view, the next step is to remove the chain and sprocket from the cam if it is of this type or to remove



5. Lifters must be removed or held away from camshaft. Keep them in order also.



6. Last step in removing all cam driven parts is to pull distributor out of block.



7. With fan and radiator out of the way, crank pulley must be removed from shaft.



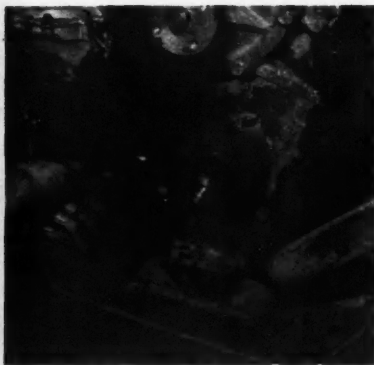
8. Olds front engine mount hooks to the front cover so mount must be loosened too

bolts from the thrust plate behind the timing gear if gears are used. The gear and cam can usually be removed at the same time but when a chain is used, the sprocket must be taken off of the cam before the chain can be removed.

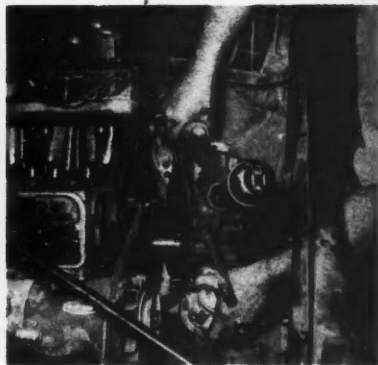
When it comes to actually pulling the camshaft from the block, extreme care must be taken to carefully pull the cam while keeping the lobes away from the cam bearings.

The bearings can be badly damaged if the cam is wildly rattled around during the removal.

Putting a new cam in the clock is a reversal of the removal procedure except that the cam must be timed properly to the crankshaft. Most of the engines using a chain are timed by aligning the timing dots on the sprockets towards each other on a direct line between the camshaft and the crankshaft.



9. One pan bolt on each side must be taken out since they screw into the cover.



10. After all bolts have been removed, cover should easily pull off. Dowel pins.



11. Sprockets and chain are removed and slight pry is often needed to loosen cam.



12. Here it comes. Keep the cam centered or cam bearings in block can be damaged.

CAMSHAFT continued

Engines using chains in Buicks, Fords, Mercs, Hudsons and Willys are timed by aligning marks on the sprockets with holes or identifying links in the chain on the tension side of the chain.

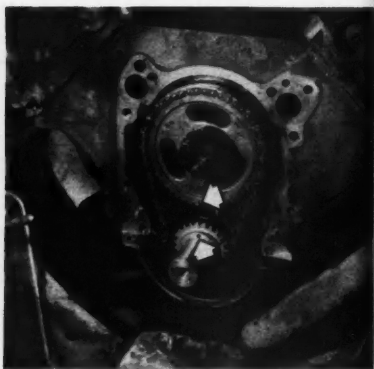
Timing gears, sprockets and timing chains should be checked and replaced if they show

excess wear or slack. There are definite limits by the individual engine manufacturer as to how much slack or clearance is allowable and if these tolerances are exceeded, the cam timing will be proportionally retarded and engine performance will be below par.

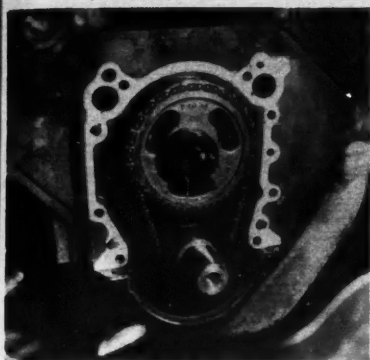
When the cam sprocket is being replaced on the cam, align the dowel in the cam with the corresponding hole in the sprocket and then use the bolts to draw the sprocket on



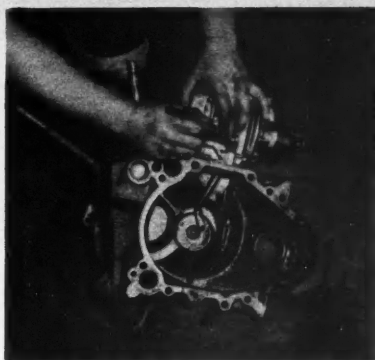
13. If crank sprocket is worn, it should be replaced for maximum performance.



14. When installing cam, timing marks on sprockets must be positioned correctly.



15. With crankshaft oil slinger and gaskets in place, engine is ready for cover.



16. Before replacing cover, remove fuel pump or arm will interfere with cam.

the cam. If a hammer is used in an attempt to drive the sprocket in place, the welsh plug in the back of the engine block may be driven out or loosened to cause a severe oil leak.

The rest of the job is merely resassembly of the engine. Make sure that the oil slinger is replaced on the crankshaft and that the spring loaded plunger used to hold the cam in position on some engines is in place. Replace any gaskets disturbed during the in-

stallation and check the oil seal in the timing case cover. This too should be replaced if it has been used more than just a short period of time or shows any damage.

Next time you have a free Saturday, why not go for a cam switch? Whether it be a new stock job to replace the tired original or one with a real earth shaking grind, you can do the job yourself without fancy tools on most of the models.



17. New front oil seal should be put in front cover before installing on engine.

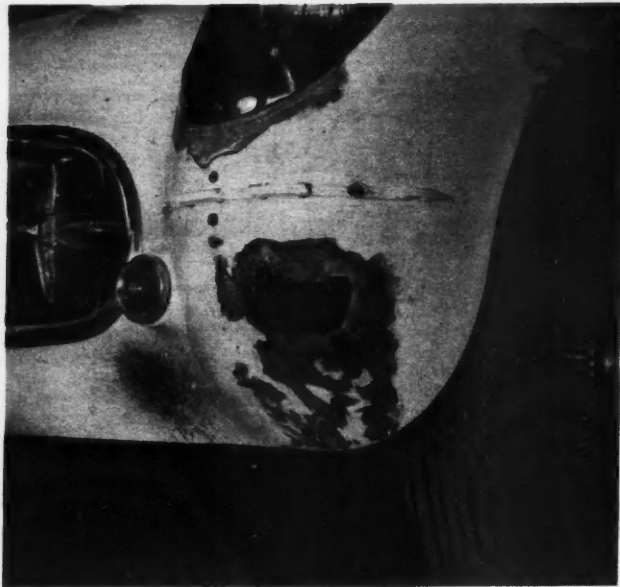


18. Hold bottom of cover in when slipping over dowels. Rest is mere assembly.

FIBERGLASS PATCHING KIT

Text and Photos
by Eric Rickman

1. A small grinder is used to sand front and rear sides of damaged areas smooth.



**damaged fiberglass-bodied cars can now be mended
with this easy-to-work repair kit**

SHOULD THE INEVITABLE happen and should you somehow manage to knock a hole in your Corvette or home-built fiberglass special — *all is not lost*. What with fiberglass being one of the most versatile, workable materials, patching is no problem. Replacement of totally wiped out sections of the body will have to be left to the dealer or, in the case of custom designed glass cars, remoulding the needed section is usually deemed compulsory. Small holes, cracks and

broken out pieces though, can now be repaired in your own backyard within a few short hours utilizing the handy patching kits now on the automotive market. These kits contain a generous supply of resin and catalyst, as well as sufficient amount of both fiberglass and mat cloth. The kits are currently available through Taylor & Art, Inc., 1710 East Twelfth Street, Oakland, California, and Pacific Plastic Service, 8612 Rindge Avenue, Playa Del Rey, California.

d from
smooth.

A small piece of acetate is now scotched
and formed over the outside area.

3. Shredded fiberglass mat is now mixed
with resin, forming a thick gooey paste.

Apply the thick paste to the damaged
area from the underneath side of the car.

5. Cut a piece of fiberglass cloth that will
sufficiently cover the damaged area.

Saturate it in resin and apply it from
the rear, working out all air bubbles.

7. After fiberglass begins curing, remove
outside acetate and let the surface dry.

With surface dry, grind smooth. Sur-
face sometimes needs additional filling.

9. With surface smooth, prime paint, then
blocksand and apply the finish paint.

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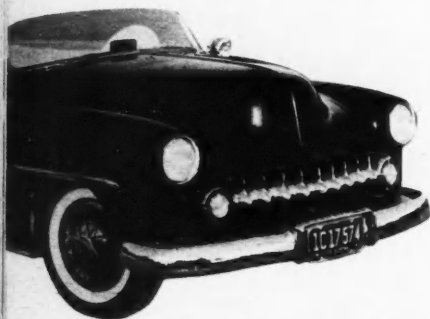
CRAFT

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STYLE REPORT

Smooth grille cavity of this '52 Ford was achieved by molding in a '49 Merc grille shell. To match grille contours, Chev's grille bar was slightly V'd in center.

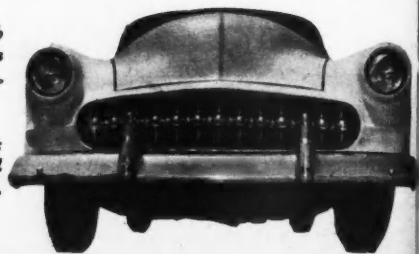
Chevrolet's — '53 CENTER



ABOVE. Customizer's neatest trick with the '53 grille assembly is to fill up main grille bar with additional vertical pieces.

RIGHT. Another similar example is this grille styling of eliminating the round end pieces, utilizing numerous vertical bars.

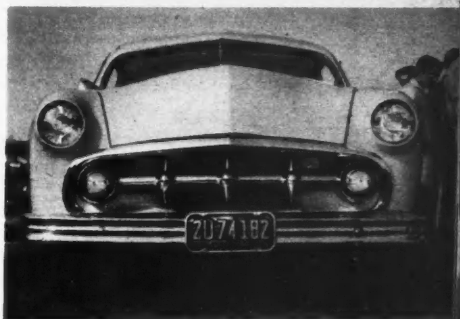
"STYLE REPORT" swings back this month with more on custom grille goodies — that which incorporates the versatile '53 Chevrolet center grille bar. This stock bar can easily be considered a true customizing component because it closely resembles specially made "floating" type grille bars that were very popular among the custom fraternity before its inception. You'll find that one of



ABOVE RIGHT. *We needn't expound on the natural mating of the '49 Merc's grille opening and the Chev's bar assembly for here they are again. Notice though that oval end pieces house neat fog light units.*

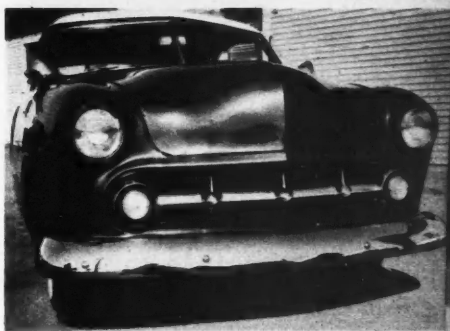


CENTER RIGHT. *The '53 Chevrolet grille bar nestles nicely into the '49-'51 Ford's grille cavity. Grille opening is encircled with special end pieces made up to match the Ford's stock chrome top grille bar.*



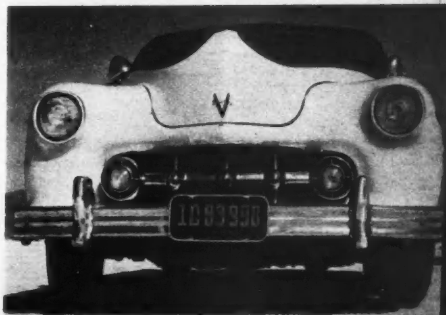
GRILLE BAR

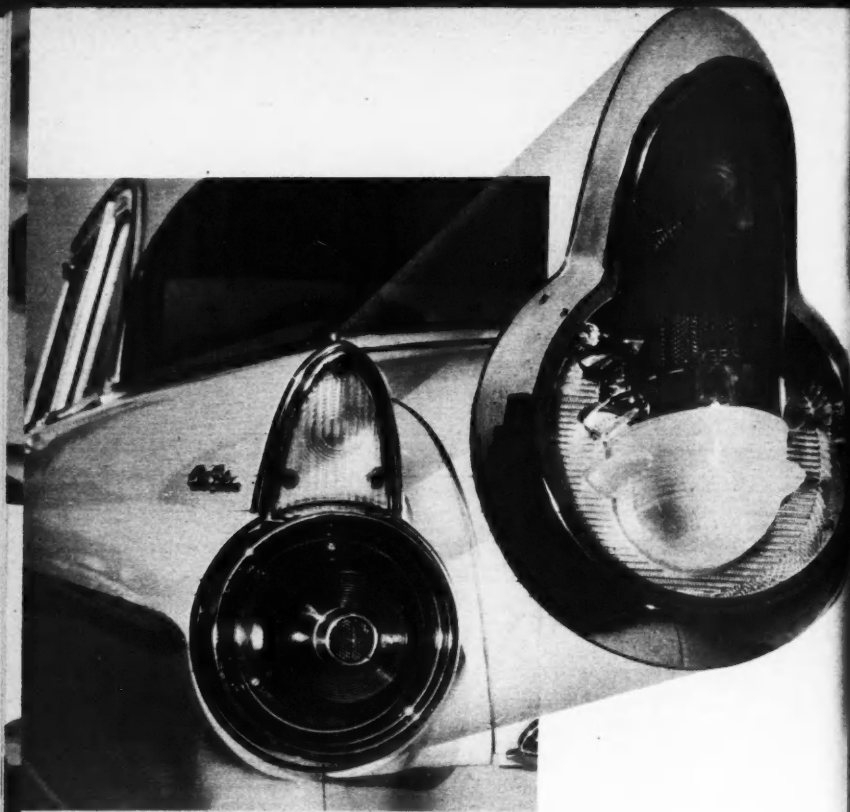
its many fortes is that it can easily be adapted to just about any make of car. It should be pointed out also that many custom grilles have been built solely around the vertical bars of the assembly which contribute a very dramatic grille styling. There are many methods and adaptiones that can be employed — pictured here are seven that we feel have high customizing merit.



ABOVE RIGHT. *Another '49-'51 Ford installation is this arrangement. Tubing has been molded to the outer edge of grille opening, neatly framing Chev grille bar.*

BELOW RIGHT. *A very much shortened '53 Chev grille assembly enhances the front end of this '50 Plymouth. Bar can easily be modified to fit any grille opening.*





RESTYLE YOUR '55 FORD AND "T" BIRD TAILLIGHTS IN THIRTY MINUTES

Photos by George Barris

ONE OF THE NEATEST taillight con-
sions to come along recently is that of
transposing the stock '55 Ford of T-Bird's
taillight lenses and outer housing with the
complete taillight assembly from a '55 Mer-
cury station wagon. The gimmick is that the
Merc wagon's rear fender design is identical
to that of the Ford's. The task of installing
the Merc taillights to the Ford fenders sim-

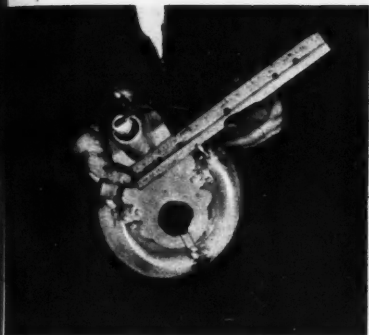
ply requires drilling four new attaching hole
and relieving the fender's rear bulkhead
slightly, allowing the Merc's taillight unit
to fit flush with the fender. Outside of the
small amount of modifications to the fender,
the transposition is practically a bolt-on item
and the tools required for the restyling
caper are those that can be found in any
backyard garage.



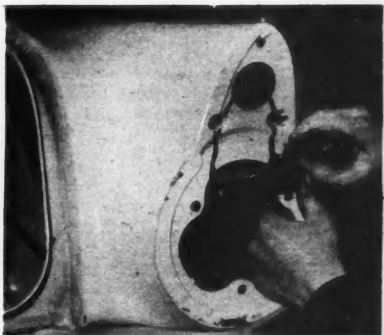
1. First step is to remove the stock Ford taillight and the upper piece of the unit.



2. Now check out alignment of the '55 Merc lens, determining modifications.

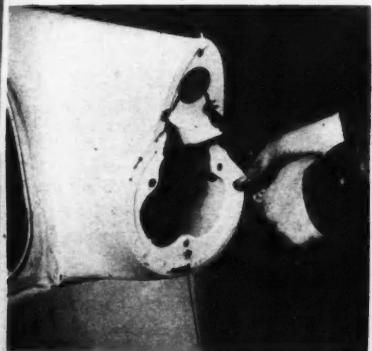


3. Measure off the width and depth of the Merc's upper backing plate section.

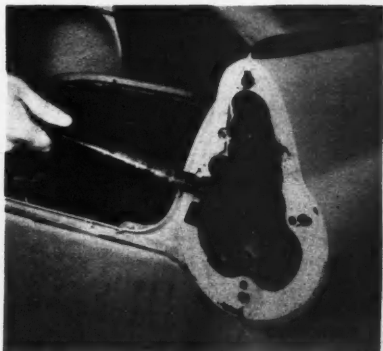


4. Transfer measurement off onto fender. Dark lines represent area to be removed.

5. Portion of the rear fender's bulkhead is cut away by employing metal tin snips.



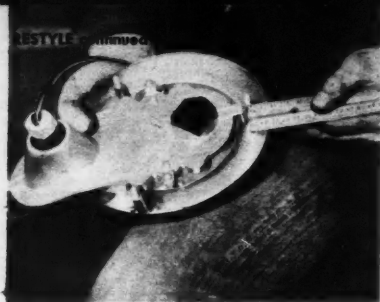
6. With bulkhead section out of the way hammer in edges of the opening slightly.



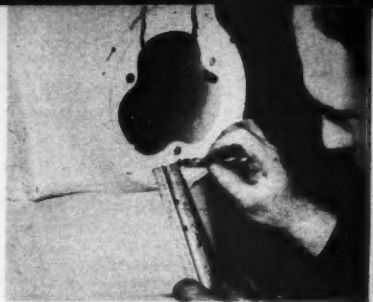
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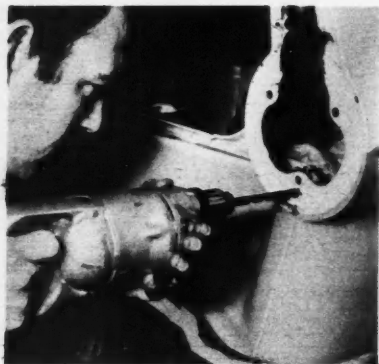
XI



7. Now measure off the position of the backing plate's lower attaching bolt.



8. Transfer measurement off onto fender. Check lens' alignment to fender again.

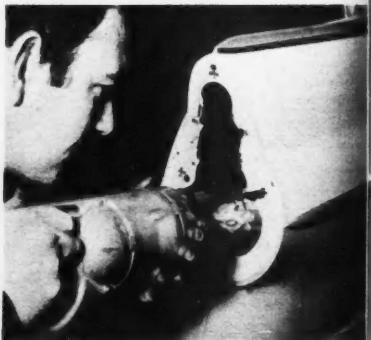
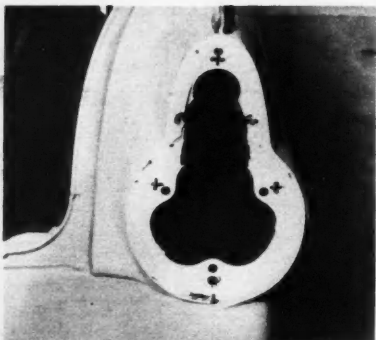


9. Center punch marking and then drill new lower attaching hole in the fender.

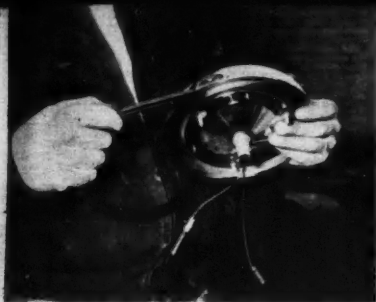


10. Now fit Merc lens up to the fender and mark off additional attachment holes.

11. Here is fender after the additional attachment holes have been laid out.



12. Center punch all markings, then employ hand drill again, drilling out all holes.



13. Now remove the rubber circular seals from the Ford's lower housing frames.



14. Buy another set of Ford seals, fitting them to upper part of Merc's frame.

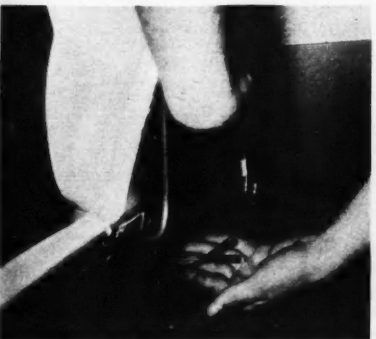


15. Now apply 3-M black weather stripping cement to both pieces of the seals.

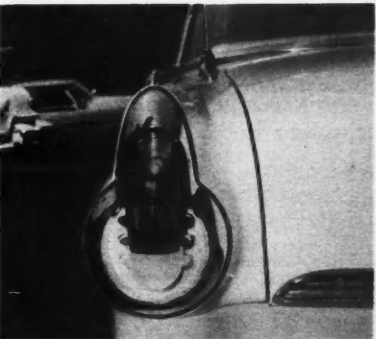


16. Cemented seals are placed into position and held secure with masking tape.

17. Before completely securing taillight, remove masking tape, now connect wiring.



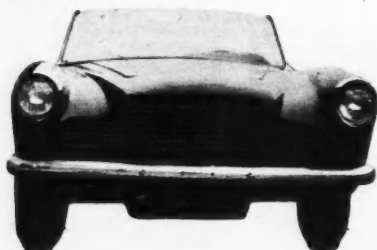
18. Merc taillights eliminate odd looking backup light unit and fills entire fender.



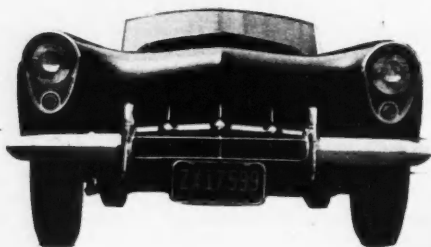
**GRAB
BAG:**



FRONT AND REAR

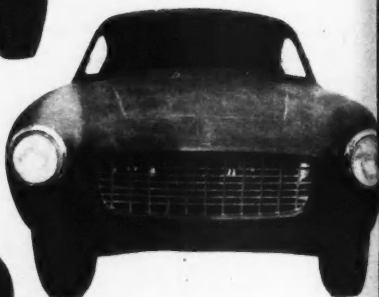
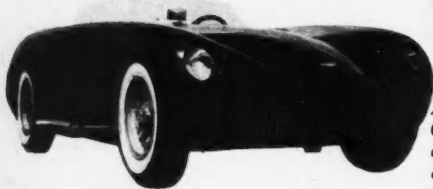


LEFT.
*Horizontal grille piece
lend effective appear-
ance to front end. Bump-
ers usually originate
from early model cars.*



LEFT.
*Here you see clever arrange-
ment of production line com-
ponents. Grille bar is from '53
Chevy, headlights are late
Buick and special split bumper
is from early Lincoln or made
up special from early Ford.*

BELOW.
*Special made vertical bars juxtapositioned
in this grille opening offer original styl-
ing. Notice deeply recessed headlights.*



ABOVE.
*Offering the traditional or popular sports
car look is this checkered or waffled grille
easily made from '55 Chevy grille assem-
bly or commercial light fixture grating.*

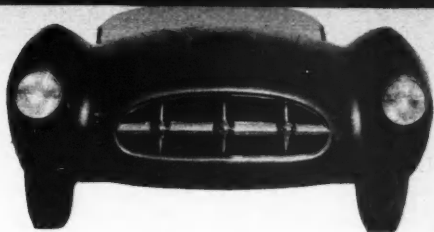
CAR CRAFT

LEFT.

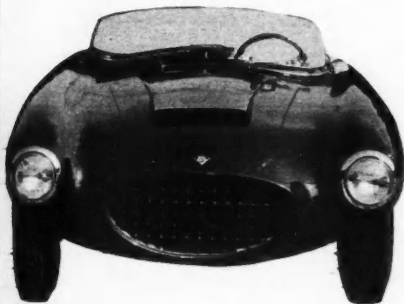
Most popular approach for fiberglass bodies has been to treat front styling with smooth cavity, backed by chrome grating. Note headlight treatment.

RIGHT.

A shortened '53 Chevy grille bar fills this simple grille cavity effectively. Note headlights.

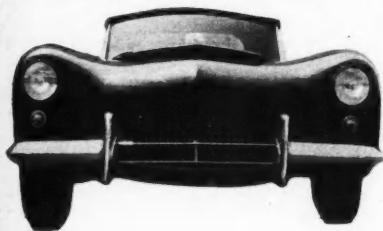


STYLING FOR THE FIBERGLASS BODY



ABOVE.

Grating from commercial lighting fixture was used to fill this small oval grille opening. Headlight rims are from late Chevy.



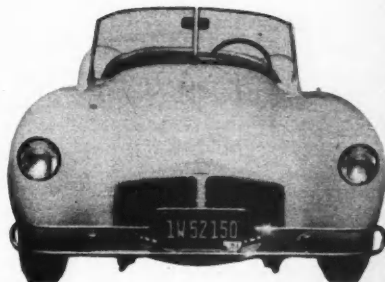
ABOVE.

Flat checkered plate serves as grille piece. Split bumper is from early model Lincoln or Ford. Headlights flush off with fenders, parking lights are from late Olds.

RIGHT.

Special nerf type bumpers made from tubing lend a unique appearance to the front of most fiberglass bodied sports cars.

SINCE FIBERGLASS BODIES have played an important role in the last few issues of CAR CRAFT we feel that a "Grab Bag" feature in their honor would be right in line. Specially built fiberglass bodies are no different in requirements than those of our stock production class. The specially designed glass body requires a grille, headlights, taillights and, if desired, bumpers. The details of these components must be planned out in the same manner as you would if you contemplated restyling or customizing your present stock automobile. Many backyard builders striving to keep their cars as original as possible in appearance create and build their own special grille pieces, bumpers and other exterior bolt on items. Others though rely on what they can utilize from the stock production car, similar to the custom car enthusiast. Both plans have good merit and to prove it, here are sixteen illustrative examples of front and rear styling treatments.



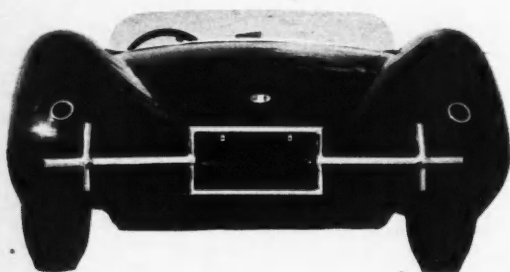
CONTINUED

**GRAB
BAG:**

continued

RIGHT.

Chromed horizontal bars coupled with special taillight lenses is keynote to this cleverly sculptured customized rear end.

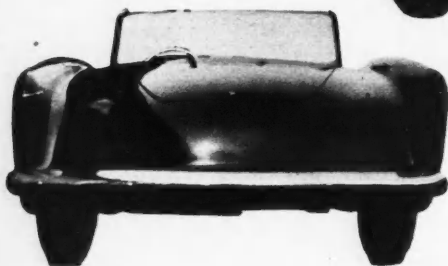


LEFT.

Tubular nerf bars were made up to offer protection to the rear of this roadster. Small rear fender taillights are special accessory items.

RIGHT.

Ideal sports car flavor is to finish off rear styling sans bumper. This is ultimate appearance, but leaves the rear of the body very vulnerable. Taillights are Pontiac.

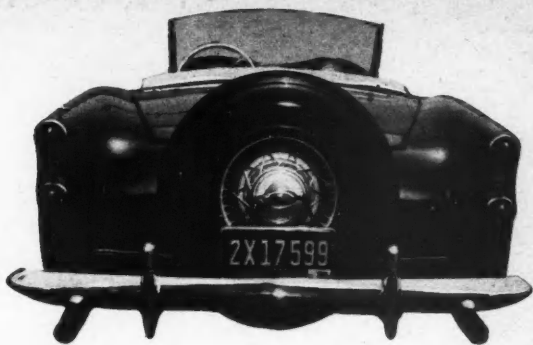


LEFT.

Blending taillights in with fender contours has high styling merits. Trimless bumper is from early Ford.

RIGHT.

Continental kit installation adds class to the boulevard type sports car design. Oval taillights are from late Buick or Olds.

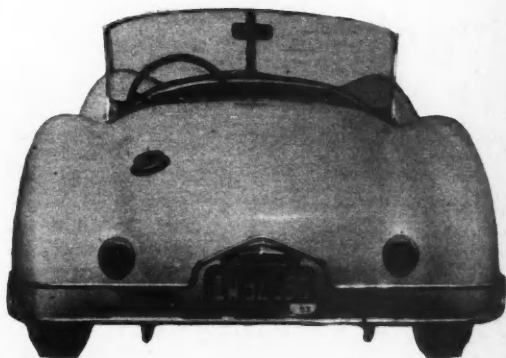


LEFT.

Front '49 Chevy license plate guard serves as license frame and small bumper for the rear of this fast-back coupe. Taillights are late Ford.

RIGHT.

Late Pontiac taillights and special tubular type bumper bar make up essential protective equipment for the rear of this body. Arrangement is uncluttered and appealing.

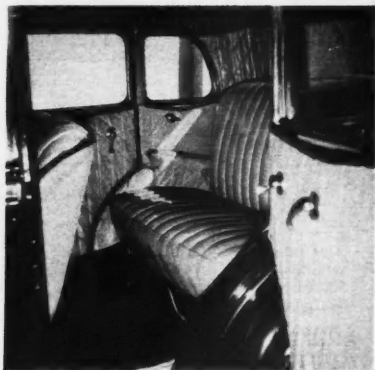
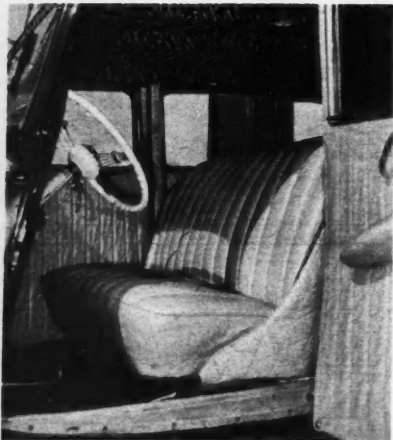




Photos by E. Rickman

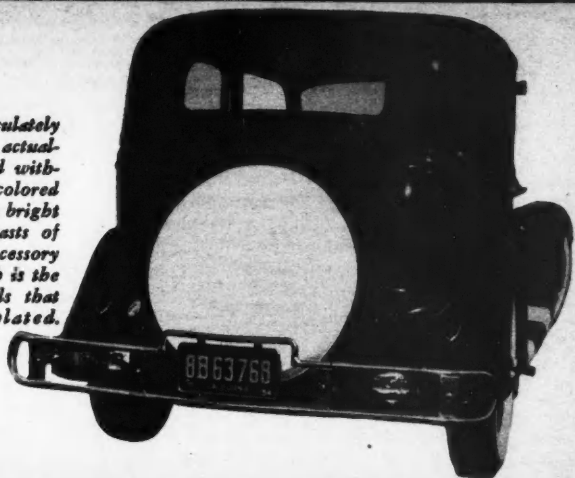
RED, WILD

Stock hood was discarded and a new three-piece, solid side panel bonnet installed detailed out with chrome louvers — yet! Radiator cap has been repositioned under hood and chrome grille frame filled in.



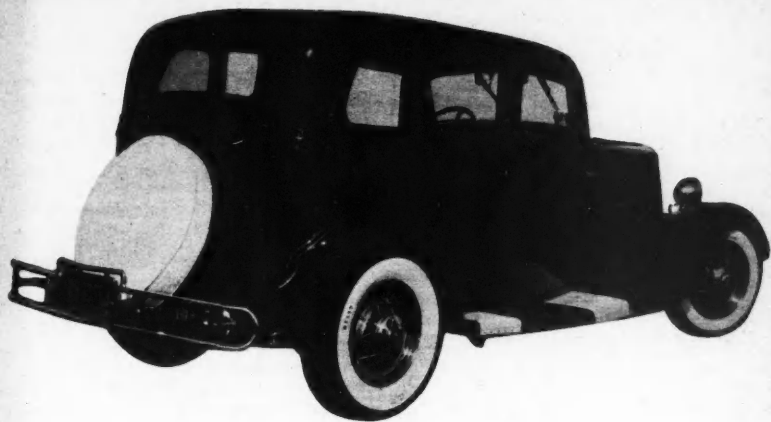
Interior abounds in various patterned materials. Seats are rolled and pleated in Chartreuse Korosel. Side paneling is made up from same material only in quilted motif. Headliner is black and white zebra pattern. Eugene's mother did the elaborate interior in her spare time.

Eugene Sadoian's immaculately detailed '34 Ford sedan actually cannot be appreciated without seeing it in its full colored attire. Body is painted a bright fire engine red and boasts of many chrome plated accessory pieces. Climactical touch is the Kelsy-Hayes wire wheels that have been copper plated.



D AND FANCY

a conservative family car for some twenty years — '34 Ford sedan is rehabilitated to the ranks of the younger set



Special made nerf type bumpers replace stock components. Teardrop taillights grafted to rear fenders are from '38 Ford. Car has slight forward rake due to dropped "Dago" front axle. Ford had been family car since new, but when Eugene was given the stock sedan by his father, he rejuvenated the 4-door to its present status for street use.

"What's Your Problem?"

By Ray Brock
Technical Editor

GEAR CLASH

Dear Ray:

I have installed an Olds '88 engine in my '38 Ford. My problem is that my transmission grinds every time I shift it into first gear. I have the proper adapter plate, a new clutch, new linkage. I am using a '41 Ford gear box, with Lincoln gears and column shift. I know of other conversions that have had the exact problem.

Can you solve it?

Mario Ruggieri
Bronx 69, New York

There are several things to check. First, does your clutch release fully? Especially with a new disc, the clutch might be dragging just enough to keep the main drive and cluster gear spinning when the clutch is released. If the thickness of the new disc is the cause of this, it will probably "wear-in" in time. How fast is the engine idling? When the car has been idling in neutral and the clutch is released, it takes a few moments for the disc, main drive and cluster to stop spinning. The faster the idle, the longer it takes them to stop. If a fast idle is necessary because of a wild cam, etc., try pushing in on the clutch pedal, then touch second gear position with the lever just enough to engage the synchromesh cones. This will stop the cluster and you can then shift into first.

DYNAFLOW BLUES

Dear Ray:

I have a '50 Buick Dynaflow and I am wondering if I could put a Ford-O-Matic or some transmission that is tighter than a Dynaflow in my now sluggish Buick?

Would a six cylinder Ford-O-Matic transmission fit my straight eight motor? Will it be much trouble to install and will it make it faster at top speed?

Please let me know?

Yours very truly,
Dean McConnell
Kirksville, Mo.

Doesn't sound like too good of an idea. If you want to get rid of the sluggish feeling, we'd recommend a conventional transmission. The Ford-O-Matic would not fit without major alterations and unless you get a late model unit, would still give slippage. If you are set on an automatic transmission, check on a late ('55) Buick Dynaflow. They make a pretty positive takeoff.

HEAT RISERS OR NOT?

Dear Ray:

This past summer I have been running my '50 Ford V8 with blocked heat risers. This winter I was forced to remove the plugs because of the cold Minnesota weather. Is it possible to convert the intake manifold to be water heated? I thought that I could weld both heat risers shut and then weld in water tubes on each side of the manifold. Is this possible?

If it can be done, who would be the best water hookup? Would it be okay to run the water through the manifold on the way to the heater?

Sincerely,
Charles Tolman
St. Cloud, Minnesota

The manifold heating method you describe should be simple enough to do but what would you gain? The heat risers are needed when the engine is cold and by the time the water got warm enough in those Minnesota winters to be of much help, the engine would probably be warmed up by itself. Until real hot weather comes again, we'd suggest leaving the heat risers open.

FASTER, FASTER, FASTER

Dear Ray:

I own a customized '55 Chevrolet with

trans-
Will it
make

Power Pack. So far, I have managed to beat the big guns such as Olds, Mercs, Fords, Dodges and some Centurys.

The thing I want to ask about is a miss in my engine. At high revolutions it cuts out and misses badly. I had been able to get 100 mph in second overdrive, but now when I hit 60, it starts raising the devil. A couple of weeks ago I tried to open it up but at 110 the engine started missing and cutting out again. I think it is my ignition, what do think?

Thank you,
Don Stoops
Mishowaka, Indiana

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Sounds as though your engine has been the victim of serious over-revving. Valve float has probably occurred so many times that the lifters and cam lobes have been beaten into submission. The Chevy '55 V8 pistons have also been known to hit the valves when they float too. Our guess is that you probably need a new cam, new lifters, a valve job and possibly some new valves. After you get the engine running right again, better get a tachometer and follow it instead of the seat of your pants. Your valve mechanism should last a lot longer.

HALF THROTTLE

Dear Ray:

I read your Nov. copy of CAR CRAFT and have tried one of your ideas. I have a '55 Plymouth with Powerlite and I tried your "Versatile Rochester" tips. It works good except I am having a little trouble getting it to idle right and still have the secondary throttles open all the way. It either idles too fast when set for full throttle (on the secondary) or it will only open the secondary about half way when set for the correct idle. I have a few things in mind that I might

(Continued on next page)

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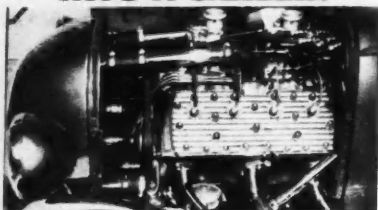
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What's Your Problem?

continued

try, but I hope you have a way this could be fixed.

Thank you,
John Cousino
Toledo, Ohio

First, is your accelerator pedal getting full travel? If so, you need just a little more length on your accelerator bell crank arm which opens the carburetor throttle valve. With a longer arm and the connecting rod farther away from the pivot points, the rod will have more travel, and the butterfly valve will open fully.

WHAT'S MY PROBLEM?

I bought myself a Chevy coupe
A dandy little dill,
I nosed her down and decked her out
From taillights to the grille.
The finished product is a dream
Money couldn't buy her,
But I can't get Dad to use his own
Long enough for me to try her.

Dick Godkin
Neligh, Nebr.

Sounds like you have a winner!

TORQUE TUBE OVERDRIVE

Dear Ray:

Reading your magazine I came upon "What's Your Problem?" in the Nov. '55 issue. I read "Overdrive for Early Fords" and I think I have a solution for John Bawland's problem.

I have a '36 Ford and was thinking of putting in an overdrive from a '48 Lincoln using the Lincoln trans with overdrive. The only real work would be to shorten the drive shaft and cut the crossmember to get space for the overdrive.

Sincerely,
Walter Mais
Malberne, New York

Your idea is very good Walt, only reason we didn't mention it is that as far as we know, the only torque tube drive Lincolns that had overdrive were the Continental models which are very hard to find nowadays. If you do locate one, the owner usually considers it a rare antique and prices it accordingly.

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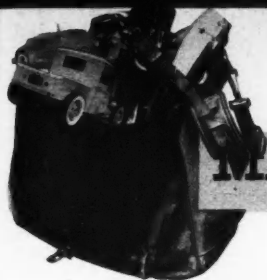
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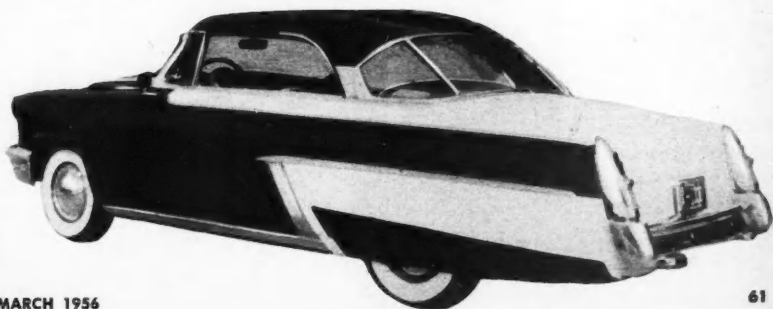
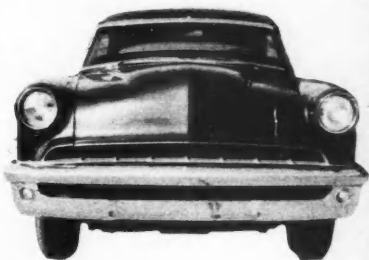


MAIL BAG CUSTOM

KANSAS CUSTOM



NORMAN WOOD'S TRIPLE toned '52 Merc heads up our "Mailbag Custom" feature this month. Norm, an Arkansas City, Kansas, lad, spent eight long months of his spare time creating his striking custom car. Custom alterations consist of filling in the hood's stock fake airscoop and blending the protruding section over the nose portion. While airscoop modifications were under the torch, a slight peak was also incorporated into the center of the hood and headlight rims frenched to fenders — naturally! Grille styling was achieved by merely removing the bumper guards and the vertical grille pieces from the stock center grille bar. Door handles and the exterior deck lid assembly were also discarded and replaced with electrical push button systems. For a little added touch, Norm built up a set of long — L-O-N-G, rear fender skirts for the rear wheel openings — 65-inches in length to be exact! Finished off with Tango red, Alaska white and black, the tri-colored painted Merc has to be an eye popper wherever it is driven—"My shades please!"



MARCH 1956

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BENCH RACIN'

continued from page 4

gear ratios (high numerical ratios) will be worth the time and effort it takes to install them. Exhaust headers are also permitted and recent tests have shown that with well-designed headers, it is quite possible to pick up at least 15 road horsepower over and above a factory dual exhaust system. This kind of increase makes milling the heads a bit foolish if one is really intent on running in the stock classes — and the headers are legal.

The reduction of friction in the engine, driveline, front wheels, brakes, etc., offers a field so fertile it should never be overlooked. Increasing the piston clearance from the usual .0015 of an inch or less to about .005 of an inch will work wonders at all engine speeds. Main connecting rod, camshaft bearings and piston pins should never be so tight as to cause binding or undue resistance. Connecting rod alignment is equally important. And don't neglect the value of a precision balancing job on all rotating and reciprocating engine parts, the driveshaft and wheels and tires. The same line of thought can be carried out with the transmission and rear end bearings and gears. Universal joints roughly absorb three horsepower for each degree of angular deflection, so it would pay dividends to make sure that the crankshaft, driveshaft and pinion shaft are all parallel and on the same plane. Close attention to these points will result in a definite increase in road horsepower. And by careful front end alignment, reduction of wheel bearing and brake "drag"

(Continued on next page)

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BENCH RACIN'

continued

and by inflating the front tires to about 40 psi, the rolling resistance of the car can be decreased, which gives the same results as a gain in horsepower. (Rear tires should be inflated to about 20 psi for a better "bite" at low speeds.)

Stock car rules also provide for a certain amount of cylinder reboring and this should certainly be seized as a means of increasing piston displacement and compression ratio without any violations of the rules. Correct seating and spacing of valves is a good point. Another very important item, and one that is worth some experimentation, is "tailoring" the ignition advance curve to suit the requirements of the engine. That is, within the range of stock springs and centrifugal weights, which should be very carefully checked for tension and weight against the manufacturer's specifications.

Oh, yes, there are lots more. Carburetion, for example, and spark plugs, and don't overlook the possibility of checking the combustion chamber volume against the minimum volume specified by the manufacturers. You may find you can do some legal head milling and still be within limits.

By now, I think the idea has gotten through. If the points mentioned are carefully attended to, it's a good bet that you can build a stock car that will outperform the cheaters. And what better way is there to drive the cheaters back in the woodwork where they belong? About all that is needed is a car, some tools, some spare time and honorable intentions.

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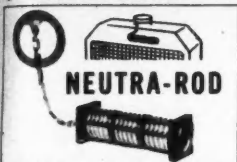
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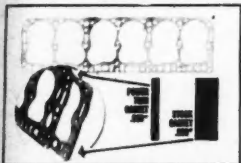
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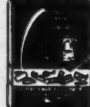
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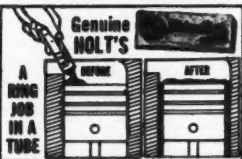


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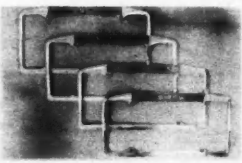
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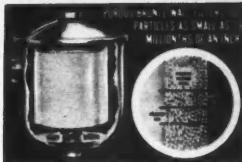
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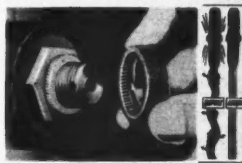
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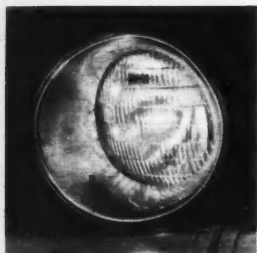
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CAR QUIZ

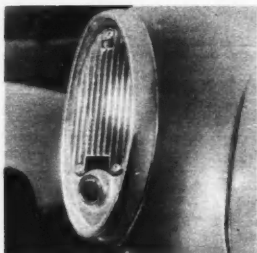
Test your car skill — identify each of these components. Each pictured component should be correctly matched with the year and make car that it is from. Score 15 points for each correct answer. A total score of 45 is passing, 60 fair, 75 good, 90 excellent.



- ()
- '53 DeSoto
- ()
- '51 Lincoln
- ()
- '51 Dodge

(1)

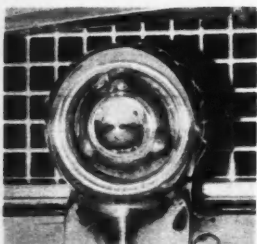
This stock tunneled headlight assembly could easily be installed into early type fenders.



- ()
- '53 Dodge
- ()
- '50 Dodge
- ()
- '50 Plymouth

(2)

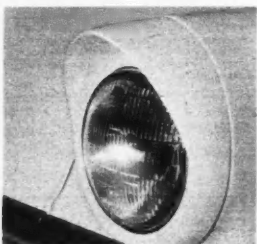
Oval shaped taillights such as this component blend well when grafted on rear pickup fenders.



- ()
- '51 Ford
- ()
- '54 Corvette (Chevy)
- ()
- '55 Thunderbird (Ford)

(3)

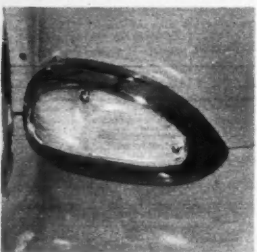
One of the neatest designed bumper guards to come along is this compact unit, what's it from?



- ()
- '53 Ford
- ()
- '55 DeSoto
- ()
- '54 Mercury

(4)

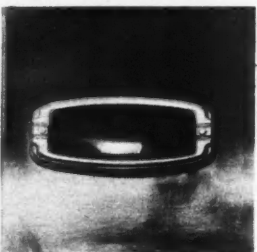
Many customizers will be adapting these headlight rims to their favorite custom automobile.



- ()
- '53 Studebaker
- ()
- '54 Chevrolet
- ()
- '55 Chevrolet

(5)

Here's a very novel parking or directional light that could easily be adapted to fenders.



- ()
- '41 Ford
- ()
- '39 Chevrolet
- ()
- '46 Chevrolet

(6)

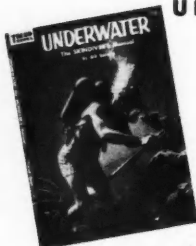
Custom car builders often remove the chrome frame of this taillight and french in lens.

ANSWERS
ON PAGE 64

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UNDERWATER



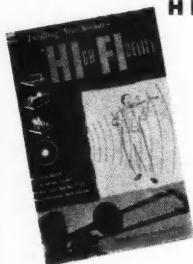
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Make of my car is _____ year _____

Model _____ No. cyl. _____

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Address _____

City _____ Zone _____ State _____

Curtin Auto Parts

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Order Form No. _____

Order Date _____

Order No. _____

Part No. _____

Part Description _____

Quantity _____

Unit Price _____

Total Price _____

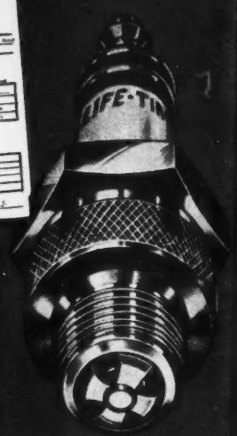
Shipping Charge _____

Grand Total _____

Payment Enclosed _____

Balance Due _____

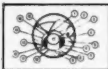
Signature _____



New electrode system still fires clean, hot and steady past 50,000 car miles! You may now order a set of these remarkable LIFE-TIME spark plugs from this advertisement . . .

50,000 CAR MILES! Before LIFE-TIME development, the spark plug was the most often replaced part of your car. Engineers agreed that "creeping paralysis," gradual electrode disintegration, carbon buildup, widening gap, burning, blistering, insulator failure could waste one gallon in ten. The LIFE-TIME plug goes far beyond the life of the average set of tires, the average battery, firing clean, hot and steady at 50,000 car miles! Most spectacular spark plug research breakthrough in 50 years allows unprecedented warranty. We GUARANTEE GREATER GAS MILEAGE—GREATER ACCELERATION—A MAJOR POWER INCREASE—OR YOUR MONEY BACK.

HOW 17 PT. FIRING WORKS
Note electrodes closely. A circular arcing area (four concave segments). Gap being the same from all points. Electricity has property of arcing from coldest point. Current also arcs more readily from apex of two planes than from face of a flat, metallic surface. Note that there are 36 apexes (where two planes meet)—all the same distance from the center electrode.



SPARK ROTATES AROUND CIRCLE. Normal heat and spark erosion are spread around the entire 360 degrees and around the whole circumference of the center electrode.

PLATINUM-NICKEL ALLOY ELECTRODES—Metallurgists' first major step beyond platinum aircraft plug electrodes. Arcing points of this material have continued to function after the equivalent of 120,000 car-miles.

SPECIAL SINTERED CORUNDUM INSULATOR—Made of gem-like mineral which conducts heat 20 times better than ordinary porcelain. Special shape (seen beneath electrodes) is designed to vaporize and exhaust wet carbon and oil.

INDIVIDUAL INSPECTION—Each LIFE-TIME Spark Plug is tested for firing in oil and for resistance to 30,000 volts/CM.

PERMANENT GAP—After months of use, LIFE-TIME Spark Plugs make at exact factory pre-gap.

SELF-CLEANING FOR LIFE—Confined gases exploding in chamber formed by multiple electrodes reclean arcing surfaces with each firing stroke.

"THANKS FOR YOUR WONDERFUL LETTERS"



The real test of a spark plug is "What will it do in my own car?" Take the above dynamometer test on a 1951 Buick Super. It shows an 8 horsepower gain with Life-Time 17-point plugs. That was a 12 1/2% hp gain at 2000 RPM. You don't need a dynamometer with Life-Time Plugs. You can feel the difference both in your ride and your pocketbook. Try a set and let me hear from you about them. Many Thanks.

Frank Edwards
Inventor of the LIFE-TIME Spark Plug

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Gentlemen: Please mail postpaid _____ set(s) (registered) of LIFE-TIME Spark Plugs in proper heat range and gap for my car at \$1.19 per plug (set of six, \$7.14, set of eight, \$9.52). (Or send \$1 per set, balance C.O.D.) California residents add 3% tax.

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YOU'LL RECEIVE BY MAIL this registered set of LIFE-TIME Spark Plugs in proper series, heat range and gap for the car you indicate in coupon. NOW AVAILABLE FOR AMERICAN & EUROPEAN PASSENGER CARS, TRUCKS, BOATS, FARM EQUIPMENT, INDUSTRIAL ENGINES.

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